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THE

COMPLETE COW-DOCTOR,

OR,

FARMER'S COMPANION.

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COMPLETE COW-DOCTOR,

OR,

FARMER'S COMPANION.

Treating of
THE MOST COMMON DISORDERS OF BLACK-CATTLE—THEIR CAUSES, SYMPTOMS AND CURES.

By JOSHUA ROWLIN, of Hollins,
Parish of Lamplugh, Cumberland.

To which is prefixed,

The Natural Hiſtory of that Animal, from the moſt eminent Natural Hiſtorians—a Diſquiſition on Rumination and Digeſtion—on the Circulation of the Animal Fluids; from Dr. Munro, Fourcroy, and others.

There is alſo a particular deſcription given of an Elaſtic Tube, invented by Dr. Munro, with the method of uſing it for the immediate relief of Swellings occaſioned by eating Wet Clover—by Fogſickneſs, or Poiſons.

To the whole is added, an Appendix,

Containing many remarks and obſervations, on the Murrain, Gargle, or Peſtilential Fever, made by eminent Phyſicians, at different times, when that Diſorder raged in England, &c.

And if the means be juſt, the purpoſe true,
Applauſe, in ſpite of trivial faults, is due. Pope.

GLASGOW,
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THE

EDITOR'S PREFACE.

NUMEROUS are the publications which make their appearance before the public, but few attempts have been made in this part of the world to offer a uſeful, and, at the ſame time, ſimple treatiſe on the diſeaſes and cures of this valuable and neceſſary ſpecies of animals.

THE following ſheets are offered as an introduction to that uſeful and long neglected ſcience, which deſerves a much greater ſhare of attention than has hitherto been beſtowed upon it; and, ſince agriculture has been found to be the baſis of our national ſtrength and improvement, it is neceſſary that the ſtudy and nature of live ſtock ſhould be particularly attended to, and above all others this part of it which conſtitutes ſuch a valuable ſhare of the farmer's property, and on which ſo much of his intereſt depends.

It has been obſerved, on a late ſurvey of live ſtock in different parts of England, Ireland, and Scotland, that a proper knowledge of this domeſtic animal has not yet been acquired by numbers of the land-holders, whoſe greateſt wealth depends on the ſucceſs and management of this moſt uſeful animal.

The many advantages attendant on a proper ſtudy into the nature of cattle has been ſatisfactorily verified from the ſucceſsful practice of the late Mr. Rowlin. It merits every encomium that a long ſeries of profeſſional ſkill and abilities can juſtly beſtow upon deſerving worth, and it gained him the honour and eſteem of every one who had occaſion for his ſervices. His experience was the reſult of more than ſixty years attention to this avocation, and his chief ſtudy was to be uſeful wherever his preſence or advice became neceſſary. His knowledge of the animal, and its general diſorders, was indiſputable, and his remedies proved to be of the greateſt utility. His perſeverance kept pace with his underſtanding, and his willingneſs to communicate, what might be of ſervice to future ages, was truly characteriſtic of his good diſpoſition while an inhabitant of this world. He died, ſincerely lamented by his numerous friends and acquaintance, in 1792, aged eighty-four years; and moſt of his time, from his youth, was devoted to the intereſt of ſociety in this favourite and uſeful ſtudy.

To make this work more extenſively uſeful, I have collected, from natural hiſtory, every thing that I thought would contribute to its worth, which came under my notice. If I have failed in the attempt, I calmly reſt ſatisfied with my fate; and, if there be any ſhare of merit in the work itſelf, it is due to the late Mr. Rowlin and others, who have ſo generouſly favoured the deſign. If I may deign to offer thanks for favours received, my duty preſſes me to addreſs that great luminary of ſcientific learning, ALEXANDER MUNRO, M. D. Profeſſor of Medicine, Anatomy, and Surgery, in the Univerſity of Edinburgh, whoſe abilities and diſintereſted reſearches into uſeful knowledge, deſervedly claim the thanks not only of individuals but of his country.

I am alſo much obliged to Mr. William Rowlin (nephew to Mr. Joſhua Rowlin) of Hollins, in the pariſh of Lamplugh and county of Cumberland, for his very great attention and civilities in forwarding the work.

ALSO to the generous and diſintereſted conduct of Mr. John Stanwix, horſe and cow-farrier, of Bolton-hall, near Wigton, the Eſtate of the Right

Honourable George O'Brien, Earl of Egremont, &c. and alſo the ſame to Mr. John Aiken of Kirkbank, in Annandale, North Britain, the Eſtate of Lord Hopeton.

And next, I beg leave to addreſs my Subſcribers with thanks for their generous ſupport in bringing, before the public, a work which, I hope, will either be productive of ſome ſervice to the country in itſelf, or be the means of bringing forward ſome abler hand, to reſcue from oblivion every uſeful ſecret, in this part of uſeful ſtudy, which remains yet unexplored, which is the ſincere wiſh of

Your much obliged

and humble Servant,

Cockermouth,
October 10th, 1793.

R. WALKER.

Elastic Tubes may be had of the Editor, or ſpecimens ſeen, at all times, by applying to him, or his Agent at Cockermouth.

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THE NATURAL HISTORY OF BLACK-CATTLE,

OR,

THAT SPECIES OF ANIMALS WHICH COME UNDER THE DENOMINATION OF THE COW-KIND.

GENERIC CHARACTER.

CLOVEN footed (with or without horns) the horns bending out laterally. Eight cutting-teeth in the lower jaw, and nine in the upper; ſkin along the lower ſide of the neck pendulous, rounded horns with a large ſpace between their baſis. *Pennant's Britiſh Zoölogy, vol.* i. 18.

THE common name of this animal has not yet been generally ſettled among natural hiſtorians. M. de Buffon calls it the ox, in general terms; but as ox denotes a caſtrated bull, in its expreſs ſenſe, a common acceptation of the word to all ſexes and ages cannot fail of being productive of miſunderſtandings; alſo, Mr. Pennant, Mr. Mills, and Mr. Marſhall, all give it the appellation of ox or oxen.

The learned and celebrated Dr. Munro of Edinburgh, gives this ſpecies of animals the general name of Black-Cattle, which ſignifies both the ox, bull and cow, in every ſtage of exiſtence, this is the moſt clear and expreſſive term, and may, with propriety, be received as a ſtandard.

Their particular names are various, and differ according to age and ſex, the derivation of words, or provincial names. *Bos* or *bovis* (in the Latin) ſignifies an ox, bull, or cow; a *heifer*, a large beaſt of any kind, &c.

A *perfect male* (in Engliſh) is called a bull, at all ages; the firſt year a bull-calf, the next a yearling, &c.

A *perfect female* is called a quey or heifer until the age of four years, when ſhe takes the name of cow, and retains it until death.

A *caſtrated male* has the various names of ſtot, ſteer, ox, or bullock, from the time of caſtration forward, &c.

THE *female*, when diſmembered, is called a ſpayed or cut-heifer: they are generally fatted for the butcher at an early age. The *free-marten* or imperfect cow. See the *Natural Hiſtory*.

WHEN the all-wiſe Diſpoſer of events thought fit to modulate this globe, from a chaos of diſorganized matter, into a habitation for millions of animated beings, he gave it a numberleſs hoſt of ſatellites and attendants, which will never be entirely comprehended by man, but will for ever witneſs the extent of his power; he gave to man faculties wherewith he may explore the deepeſt receſſes of ſcience, and hath ſet no bounds to improvement; he hath ſet before him an immenſe variety, and has taught him a never-failing leſſon, of juſtice and œconomy, in all his works. To man, the moſt favoured animal in the creation, hath he given power and dominion over the reſt; who, as a ſocial being alone is obliged to the arts and ſciences to ſupply his wants; nature has given to inferior animals, clothing fitted to their various ſituations in life, and the earth produceth neceſſaries for them in abundance. In the moſt diſtant and uncultivated regions of the earth, man exerciſeth his prerogative over all the other animal tribes; but the cultivation of his own mind only keeps pace with his opportunities or neceſſities.

When men and animals firſt became acquainted, it may be ſuppoſed, with the greateſt propriety, that the former knew very little of the nature and properties of the latter, further than that their fleſh was agreeable to the palate, and their ſkin uſeful for warding off the inclemencies of the weather; but time, example, or neceſſity brings on, ſlowly and inſenſibly, ſome degree of improvement in every corporated ſociety where civilization has a reſidence.

If we look back towards the beginning of time, we may be juſtly led to believe that the arts and ſciences have been very ſlow in their progreſs, or have met with frequent loſſes on their way to us. The cultivation of animals and vegetables muſt employ at leaſt one fourth part of the civilized world, and they are ſo nearly related to each other, that the profeſſor in one ſhould be a practitioner in the other, or there will be a chaſm between two principles which ought to be united.

Every ſpecies of animals, under the dominion of man, has been in a wild ſtate at ſometime or other; and, from the wide extent of ſpace in different parts of the univerſe, the difference appears ſo great in their preſent familiarized ſtate to that of the wild—that many judicious obſervers have been led to believe the diſſonance of ſpecies when they abſolutely derived their birth from one common parent.

DOMESTIC animals differ, in many reſpects, from wild animals. Their nature, their ſize, are more fluctuating, and ſubject to greater changes, eſpecially in the external parts of the body. The influence of climate, which acts powerfully upon all nature, exerts itſelf with greater efficacy upon captive than upon free animals. Food prepared by the hand of man, which is often ill choſen, and ſparingly adminiſtered, joined to the inclemency of a foreign ſky, produces, in the progreſs of time, alterations ſo deeply engraven that they become conſtant, and are tranſmitted to poſterity. I pretend not to maintain, that this general cauſe of change is ſo powerful as to alter eſſentially the nature of beings, whoſe conſtitution is ſo permanently fixed as that of animals. But it transforms and maſks their external appearance; it annihilates ſome parts and gives riſe to others; it paints them with various colours; and, by its action, or the temperament of the body, it has an influence on the diſpoſitions, inſtincts, and other internal qualities. The modification of a ſingle part, in a machine ſo perfect as that of an animal body, is ſufficient to make the whole feel the effects of the alteration.

It is for this reaſon that our domeſtic animals differ nearly as much in diſpoſitions and inſtincts, as in figure, from thoſe which enjoy their natural ſtate of freedom. Of this the ſheep affords a ſtriking example. This ſpecies, in its preſent condition, could not exiſt without the care and defence of man: it is alſo much changed, and very inferior to its original ſpecies. But not to depart from our chief object, we ſee how many changes the ox has undergone, from the combined effects of climate, food and management, in a wild, and in a domeſtic ſtate.

The bunch which ſome oxen carry between their ſhoulders, both in a domeſtic and wild ſtate, is the moſt general, and moſt remarkable variety. This race of oxen is denominated biſons; and, it has been imagined, till now, that they were a different ſpecies from the common ox. But, as we are certain that theſe animals produce with the common kind, and that the bunch diminiſhes from the firſt generation, and diſappears in the ſecond or third, it is evident that the bunch is only an accidental and variable character, which prevents not the bunched ox from belonging to the ſame ſpecies with our ox. Now in the deſert parts of Europe, there were, in ancient times, wild oxen, ſome of them with bunches, and others without bunches. Hence this variety ſeems to be natural, and to proceed from the abundance and more ſubſtantial quality of the food. It is remarked, that even camels, when meagre and ill fed, have not the leaſt veſtige of a bunch. The ox without a bunch was called *vrochs* and *turochs* in the language of the Germans, and in the ſame language, the bunched ox was called *viſen*. The Romans, who knew neither of theſe wild oxen till they ſaw them in Germany, adopted their German names. From *vrochs* they made *vrus*, and from *viſen*, *biſon:* they never imagined that the wild ox deſcribed by Ariſtotle, under the name of *bonaſus*, could be one or other of theſe oxen whoſe names they had latinized.

The length of the hair is another difference between the aurochs and biſon. The neck, the ſhoulders, and the throat of the biſon, are covered with very long hair. But, in the aurochs, all theſe parts are covered with ſhort hair, ſimilar to that on the reſt of the body, except the front, which is covered with criſped hair. This difference of the hair, however, is ſtill more accidental than that of the bunch, and depends likewiſe on the food and the climate, as is evident in the goat, ſheep, &c. Thus neither the bunch nor the difference in the length of the hair, are ſpecific characters, but accidental varieties only.

A more extenſive variety than the other two ariſes from the figure of the horns; to which character naturaliſts have aſcribed more importance than it deſerves. They have not conſidered, that, in our domeſtic cattle, the figure, the ſize, the poſition, the direction and even the number of the horns, vary ſo greatly, that it is impoſſible to aſcertain what is the real model of nature. In ſome cows, the horns are much crooked, and hang ſo low as to be almoſt pendulous; in others they are more erect, longer, and more elevated, there are entire races of ſheep, with ſometimes two, ſometimes four horns, and there are races of beeves, or black-cattle, without horns. Theſe external, or, as they may be called, acceſſory parts of the body, are as fluctuating as the colours of the hair, which, in domeſtic animals, are varied and combined in every poſſible manner. This difference in the figure and direction of the horns, which is ſo frequent, ought not, therefore, to be regarded as a diſtinctive character of ſpecies. It is, however, the only character, which our naturaliſts have adopted in their ſpecies; and, as Ariſtotle in his deſcription of the bonaſus, ſays, that its horns bended inwards, they have, from this conſideration alone, and without having ever ſeen the individual, ſeparated it from the reſt, and made it a diſtinct ſpecies.

In this variation of the horns of domeſtic animals, we have confined our remarks to ſheep, and beeves or black-cattle.

The mutilation of animals by caſtration ſeems to injure the individual only, and to have no influence on the ſpecies. It is certain, however, that this practice reſtrains nature on the one hand, and weakens her on the other. A ſingle male, obliged to ſerve thirty or forty females, muſt be enfeebled; beſides the ardour of love is unequal. It is cool in the male, who exerts himſelf beyond the bounds of nature, and too ardent in the female, whoſe enjoyment is limited to an inſtant. Of courſe the offspring muſt be chiefly tinctured with the feminine qualities; more females will be produced than males, and even the males will partake more of the mother than the father.

This is unqueſtionably the reaſon why more girls than boys are brought forth in thoſe countries where the men have a great number of wives. On the contrary, in all countries where the men are allowed but one wife, more males are produced than females. It is true, that, in domeſtic animals the fineſt males are ſelected to become the fathers of an offspring ſo numerous. The firſt productions from theſe males will be ſtrong and vigorous. But, in proportion to the number of copies taken from the ſame mould, the original impreſſion of nature will be deformed, or at leaſt rendered leſs perfect. The race muſt, therefore, degenerate and become more feeble.

This, perhaps, is the reaſon why more monſters are produced among domeſtic than wild animals; where the number of males is equal to that of the females, they have not the liberty of following their own taſte. They are deprived of that gaiety, and thoſe ſoft emotions which proceed from ſpontaneous pleaſures. The fire of their love is half extinguiſhed; and they languiſh, waiting for the cold approaches of a male, whom they have not ſelected, who is often not accommodated to them, and who always flatters leſs than one that is obliged to careſs, in order to obtain a preference. Theſe melancholy and taſteleſs amours muſt give riſe to productions equally diſmal and inſipid; beings who never have that courage, which ſpirit and ſtrength, can alone beſtow on each ſpecies, by leaving all the individuals in full poſſeſſion of their powers, and, above all, of the liberty of choice in the intermixture of the ſexes.

To theſe cauſes of degeneration, in domeſtic animals, we muſt ſtill add another, which alone has produced more changes than all the combined force of the others; I mean the conſtant tranſportation of thoſe animals from clime to clime.

The ox, the ſheep, and the goat have been carried to every habitable part of the globe. Theſe ſpecies have been ſubjected to the influence of every climate, and have received impreſſions from every ſoil and every ſky, ſo that it has become extremely difficult, amidſt the changes they have undergone, to recogniſe thoſe which are leaſt removed from the prototype of nature.

The ſmall ox of Belon, is only a variety of the common ox, as proved from its figure, and the accounts given by Proſper Alpinus, and Edwards, it is a native of Africa, and is there called zebu. It is domeſtic and uſed for riding. It is a mild, and even a careſſing animal. Its figure, though thick and ſquat, is agreeable. It has, however, ſo perfect a reſemblance to the ox, that I can give no better idea of it than by remarking, that, if a handſome bull were viewed through a glaſs, which diminiſhed objects one half, this contracted figure would be that of the zebu.

The urus, or aurochs, is the ſame animal with the common bull, in its natural and wild ſtate. This poſition is evident from the figure of the aurochs, and its whole habit of body, which are perfectly ſimilar to thoſe of our domeſtic bull. The aurochs, like every other animal that enjoys liberty, is only larger and ſtronger. The aurochs is ſtill found in ſome northern provinces. The young aurochs have ſometimes been carried off from their mothers, and after being reared to maturity, they produced with our domeſtic cows and bulls. Hence theſe animals muſt unqueſtionably belong to the ſame ſpecies.

The animal diſtinguiſhed by the name of biſon, differs from the aurochs by accidental varieties only, and, conſequently, it is, as well as the aurochs, of the ſame ſpecies with the domeſtic ox. The bunch, the length and quality of the hair, and the figure of the horns, are the ſole characters by which the biſon can be diſtinguiſhed from the aurochs. But we have ſeen the bunched oxen produce with the common domeſtic kind; we likewiſe know, that the length and quality of the hair, in all animals, depend on the nature of the climate; and we have remarked, that, in the ox, ſheep, and goat, the form of the horns is various and fluctuating. Theſe differences, therefore, are by no means ſufficient to conſtitute two diſtinct ſpecies: And, ſince our domeſtic cattle produce with the bunched Indian oxen, they would likewiſe produce with the biſon or bunched ox of Europe. Among the almoſt innumerable varieties of theſe animals in different climates, there are two primitive races, both of which have long continued in a natural ſtate, the biſon or bunched ox, and the aurochs, or the ox without a bunch. Theſe races have ſubſiſted, either in a wild or domeſtic ſtate, and have been diffuſed, or rather tranſported by men into every climate of the globe. All the domeſtic oxen without bunches have proceeded originally from the aurochs, and all the bunched oxen have been derived from the biſon.

To obtain a juſt idea of theſe varieties, we ſhall give an enumeration of them as they exiſt in different parts of the world.

To begin with the north of Europe; the ſmall bulls and cows of Iceland, though they belong to the ſame race with our oxen, are deprived of horns. The magnitude of theſe animals, depends more on the abundance and quality of their paſture, than on the nature of the climate. The Dutch bring meagre cattle from Denmark which fatten prodigiouſly in their rich meadows, and give a great quantity of milk. Theſe Daniſh cattle are of a large kind, but much leaner in their own paſtures than ſome of their neighbouring cattle. The cows and bulls of the Ukraine, where the paſture is excellent, are reckoned to be the largeſt in Europe, ſome of which require a man, above the common ſtature, to be able to lay his hand on an ox's back, and yet are of the ſame race with the common kind. In Switzerland, where the tops of the mountains are covered with verdure and flowers, and are ſolely deſtined for the feeding of cattle, the oxen are nearly double the ſize of thoſe in France, where they are generally fed upon groſs herbage, which is deſpiſed by the horſes. During winter, bad hay and leaves are the common food of our oxen;* and, in ſpring, when they ſtand in need of being recruited, they are excluded from the meadows. Hence they ſuffer more in ſpring, than in winter; for they then hardly receive any thing in the ſtable, but are conducted into the highways, into fallow grounds, or into the woods, and are always kept at a diſtance from fertile land; ſo that they are more fatigued than nouriſhed. Laſtly, in ſummer, they are permitted to go into the meadows, which are then eaten up, and parched with drought. During the whole year, therefore, theſe animals are never ſufficiently nouriſhed, nor receive food agreeable to their nature. This is the ſole cauſe which renders them weak, and of a ſmall ſize; for, in Spain, and in ſome diſtricts of France, where the paſture is good, and reſerved for oxen alone they are much larger and ſtronger.

In Barbary, and moſt parts of Africa, where the lands are dry, and the paſture poor, the oxen are ſtill ſmaller, the cows give much leſs milk than thoſe of France or Spain, and moſt of them loſe their milk with their calves. The ſame remark applies to ſome parts of Perſia, of Lower Ethiopia, and of Great Tartary, while, in the ſame countries, and at no great diſtances, as in Calmuck Tartary, where their oxen are ſtill larger than thoſe of the Ukraine, they are taller than in any other part of the world; alſo in Upper Ethiopia, and Abyſſinia, the oxen are of a prodigious ſize, they are ſaid to be as large as camels, and without horns.

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* France.

HENCE this difference depends more on the quantity of food, than on the temperature of the climate. In the northern and temperate, as well as in the warm regions, we find, at very inconſiderable diſtances, large or ſmall oxen according to the quantity and quality of the paſture they have to feed upon.

THE race of aurochs, or of the ox without a bunch, occupies the frozen, and temperate zones, and is not much diffuſed over the ſouthern regions. The race of the biſon, or bunched ox, on the contrary, occupies all the warm climates. In the whole continent of India, in the eaſtern and ſouthern iſlands, through all the regions of Africa, from Mount Atlas to the Cape of Good Hope, there are almoſt no oxen without bunches. It even appears that this race, which is diffuſed through all the warm countries, has ſeveral advantages over the other; for, like the biſon from which they have proceeded, theſe bunched oxen have ſofter and more gloſſy hair than thoſe of the others, whoſe hair like that of the aurochs, is hard and thinly ſpread over the body. They are likewiſe ſwifter, more proper for ſupplying the place of the horſe, and at the ſame time not ſo ſtupid and indolent as thoſe that are found in the north of Europe; but are more tractable and intelligent, and have more of thoſe relative feelings from which advantage may be derived.

They are likewiſe treated with more care than our beſt horſes. The reſpect the Indians entertain for theſe animals is ſo great, that it has degenerated into ſuperſtition, which is the ultimate ſtep of blind veneration. The ox, being the moſt uſeful animal, has appeared to them to merit the greateſt reverence.

These bunched oxen vary, perhaps, more than ours, in the colour of the hair, and the figure of their horns. The moſt beautiful are white, like thoſe of Lombardy. Some of them have no horns; the horns of others are very high, and in others they are almoſt pendulous. It even appears that this firſt race of biſons, or bunched oxen, ſhould be divided into two ſecondary races, the one large, and the other ſmall, which laſt comprehends the zebu. Both are found nearly in the ſame climates, and are equally gentle and eaſily managed. The oxen of India are of different ſizes, ſome large, ſome ſmall, and others of a middle ſize; but in general, they travel well, ſome of them making journeys of fifteen leagues a-day. Some of them are near ſix feet high; but theſe are rare. There is another kind called dwarfs; becauſe they exceed not three feet in height. The latter, like the others, have a bunch on their backs, run very faſt, and are uſed for drawing ſmall carts. The white oxen are extremely dear. I have ſeen two, which belonged to the Dutch, each of which coſt two hundred crowns. They were indeed very beautiful and ſtrong; and the chariot in which they were yoked had a magnificent appearance. When people of faſhion have fine oxen, they take great care of them. The tips of their horns are ornamented with copper rings. They are covered with clothes, in the ſame manner as horſes. They are daily curried, and fed with great attention.

The bunches of ſome oxen weigh from forty to fifty pounds, and thoſe of others are much ſmaller. In ſome, the horns are prodigiouſly large. In the royal cabinet there are ſpecimens of them of three feet and a half in length, and ſeven inches in diameter at the baſe. We are aſſured, by ſeveral travellers, that they are capable of performing actions which approach to the human powers. The Hottentots train their oxen to war, and employ them nearly in the ſame manner as the Indians employ the elephants.

The Hottentots have oxen which they employ ſuccefsfully in their combats. Theſe animals are called *backeleys*, from the word *backeley*, which in the Hottentot language ſignifies war. In all their armies there are conſiderable troops of thoſe oxen, which are eaſily governed, and which are let looſe by the chief, when a proper opportunity occurs. They inſtantly dart, with great impetuoſity, on the enemy. They ſtrike with their horns, kick, overturn, and trample under their feet, every thing that oppoſes their fury. Hence, if not quickly turned back, they run ferociouſly into the ranks, which they ſoon put into the utmoſt diſorder, and thus prepare an eaſy victory for their maſters. The manner in which theſe animals are trained and diſciplined, reflects much honour on the genius and ability of the Hottentots. *Voyage de cap de bonne-eſperance*, *par Holbe*, *tome* i. *p*. 160.

These backeleys are likewiſe of great uſe in guarding the flocks when paſturing. At the ſmalleſt ſignal from the keeper, they bring back and collect the wandering animals. They alſo run with fury upon ſtrangers, which makes them a great ſecurity againſt the attacks of the buſchies, or robbers of cattle. Every *kraal* has at leaſt ſix of theſe backeleys, which are choſen from among the fierceſt oxen. When one of them dies, or becomes unſerviceable by age, another is ſelected from the flock to ſucceed him. The choice is made by one of the oldeſt kraals who is ſuppoſed to diſtinguiſh the animal that will be moſt eaſily inſtructed. This noviciate is aſſociate with one of the moſt experienced backeleys, and he is taught either by blows or by other means, to follow his companion. In the night they are tied together by the horns, and are likewiſe kept in the ſame ſituation during part of the day, till the young ox is completely trained to be a vigilant defender of the flock. Theſe backeleys, or keepers of the flocks, know every inhabitant of the kraal, and ſhew the ſame marks of reſpect for all the men, women, and children, as a dog does, who lives in his maſter's houſe. Hence thoſe people may approach their cattle with the utmoſt ſafety; for the backeleys never do them the ſmalleſt injury. But if a ſtranger, and particularly an European, ſhould uſe the freedom, without being accompanied with a Hottentot, his life would be in the greateſt danger. Theſe backeleys, which paſture all around, would ſoon run upon him at full gallop, and, if not protected by the ſhepherds, by fire arms, or by ſuddenly climbing a tree, his deſtruction is unavoidable. In vain would he have recourſe to ſticks or ſtones: A backeley is not to be intimidated by ſuch feeble weapons. *Deſcription du cap de bonne-eſperance, part* i. 20. *p.* 307.

Oxen without bunches are ſpread over all America. They were ſucceſſively tranſported thither by the Spaniards and other Europeans. Theſe oxen have greatly multiplied, but have become ſmaller in theſe new territories. This ſpecies was abſolutely unknown in South America. But, in all the northern regions, as far as Florida, Louiſiana, and even in the neighbourhood of Mexico, the biſons, or bunched oxen, were found in great numbers. Theſe biſons, which formerly inhabited the woods of Germany, of Scotland, * and other northern countries, have probably paſſed from the Old to the New Continent. Like all the other animals their ſize has diminiſhed in America; and, according as they lived in climates more or leſs cold, their hair has become longer or ſhorter. In Hudſon's Bay, their beard and hair are longer and more buſhy than in Mexico; and, in general, their hair is finer than the fineſt wool. We cannot heſitate in pronouncing theſe biſons of the New Continent to be the ſame with thoſe of the Old. They have preſerved all the principal characters, as the bunch on the ſhoulders, the long hair under the muzzle, and on the anterior parts of the body; and the ſhort legs and tail: And, upon comparing what has been ſaid of them by Hernandez, Fernandez, and all other travellers and hiſtorians of the New World, with what has been delivered concerning the European biſon by ancient and modern naturaliſts, we will be convinced that they are not animals of

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* These animals called biſons by M. de Buffon, are, in all probability, the wild ox deſcribed by Boethius, a famous Scotch hiſtorian, who was born at Dundee, about the year 1470, he ſays, when ſpeaking of their wild cattle, that they were of a pure white colour, and had manes like lions. Mr. Pennant ſays, he cannot but give credit to the relation; having ſeen, in the woods of Dremtanrig, in North Britain, and in the park belonging to Chillingham caſtle, in Northumberland, herds of cattle probably derived from the ſavage breed. They had loſt their manes, but retained their colour and fierceneſs: they were of a middle ſize, long legged, and had black muzzles and ears, their horns fine, and with a bold and elegant bend.—The keeper of thoſe at Chillingham ſaid, that the weight of the ox was 38 ſtones; that of the cow, 28: that their hides were more eſteemed

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eſteemed by the tanners than thoſe of the tame; and they would give ſixpence per ſtone more for them. Theſe cattle were wild as any deer; on being approached, they would inſtantly take to flight, and gallop away at full ſpeed; never mix with the tame ſpecies, nor come near the houſe; unleſs conſtrained to it by hunger, or very ſevere weather: When it is neceſſary to kill any, they are always ſhot; if the keeper only wounds the beaſt, he muſt take care to keep behind ſome tree, or his life would be in danger from the furious attacks of the animal, which will never deſiſt till a period is put to its life. *Pennant's Britiſh Zoology.*

of different ſpecies. Thus the wild and domeſtic ox of Europe, Aſia, Africa, and America, the bonaſus, the aurochs, the biſon, and the zebu, are animals of the ſame ſpecies; which, according to the differences of climate, of food, and of treatment, have undergone the various changes above deſcribed. The ox is not only the moſt uſeful animal, but the moſt generally diffuſed; for it has been found every where, except in South America. Its conſtitution is equally adapted to the ardours of the South, and the rigours of the North.

It appears to be very ancient in all climates. It is domeſtic in civilized nations, and wild in deſert countries, or among unpoliſhed people. From its own reſources, it ſupports itſelf in a ſtate of nature, and never loſes thoſe qualities which render it ſerviceable to man. The young wild calves which are carried off from their mothers in India and Africa, ſoon become as gentle as thoſe of the domeſtic race. This conformity, in natural diſpoſitions, is a ſtill farther proof of the identity of the ſpecies. Mildneſs of character indicates a phyſical flexibility in the form of their bodies; for, in every ſpecies, whoſe diſpoſitions are gentle, and who have been ſubjected to a domeſtic ſtate, there are more varieties than in thoſe who, from an inflexibility of temper, have remained ſavage. If it be aſked, whether the aurochs or the biſons be the primitive race of oxen, a ſatisfactory anſwer may be obtained by drawing concluſions from the facts already related. The bunch of the biſon, as formerly remarked, is an accidental character only, which is effaced by the commixture of the two races. The aurochs, or ox without a bunch, is, therefore, the moſt powerful and predominant race. Were it otherwiſe, the bunch, inſtead of diſappearing, would extend, and ſubſiſt in all the individuals proceeding from a mixture of the two races. Beſides, the bunch of the biſon, like that of the camel, is not ſo much a production of nature, as an effect of labour, and a badge of ſlavery. In all ages, and in every country, the oxen have been obliged to carry burdens. Their backs, by conſtant, and often exceſſive loads, have been deformed; and this deformity has been tranſmitted by generation. There remained no oxen without this deformity, except in thoſe countries where they were not employed in carrying burdens. Through all Africa and the Eaſt, the oxen are bunched; becauſe, at all times, they have carried loads on their ſhoulders. In Europe, where they are employed in the draught only, they have not undergone this deformed change, which is probably occaſioned, in the firſt place, by the compreſſion of the loads, and, in the ſecond, by a redundance of nouriſhment; for it diſappears when the animal is meagre and ill fed. Domeſtic oxen, with bunches, might eſcape, or be abandoned in the woods, where their poſterity would inherit the ſame deformity, which, inſtead of diſappearing, would augment by the abundance of food peculiar to all uncultivated countries; ſo that this ſecondary race would ſpread over all the deſert lands of the North and South, and paſs, like the other animals which can ſupport the rigours of cold, into the New Continent. The identity of the ſpecies of the biſon and aurochs, is ſtill farther confirmed from this circumſtance, that the biſons of North America, have ſo ſtrong an odour of muſk, that they have been called muſk oxen by moſt travellers, and at the ſame time we learn from the teſtimony of ſpectators, that the aurochs, or wild ox of Pruſſia, and Livonia, has the ſame ſcent of muſk.

Of all the names, therefore, prefixed to this animal, which, both by ancient and modern naturaliſts, are repreſented as ſo many diſtinct ſpecies, there remain only the buffalo and the ox. Theſe two animals though very ſimilar, both domeſtic, often living under the ſame roof, and fed in the ſame paſtures, though at liberty to intermix, and frequently ſtimulated to it by their keepers, have uniformly refuſed to unite. They never copulate nor produce together. Their natures are more remote from each other than that of the aſs and the horſe: They even ſeem to have a mutual antipathy, for we are aſſured that cows will not ſuckle young buffaloes, and the female buffaloes refuſe to ſuckle young calves. The diſpoſition of the buffalo is more obſtinate and untractable than that of the ox. He is leſs obedient, more violent, and ſubject to humours more frequent and more impetuous. All his habits are groſs and brutal. Next to the hog he is the dirtieſt of domeſtic animals; for nothing is more difficult than to dreſs and keep him clean. His figure is groſs and forbidding. His aſpect is wild and ſtupid. He ſtretches out his neck in an aukward, ignoble manner, and carries his head ſo ungracefully, that it generally hangs down toward the ground, he bellows hideouſly, and with a ſtronger and deeper tone than that of the bull. He has meagre limbs, a naked tail, a dark countenance, and a ſkin as black as his hair. He differs chiefly from the ox by the black colour of his ſkin: It appears under the hair which is not cloſe. His body is thicker and ſhorter than that of the ox. His fleſh is black and hard, and has not only a bad taſte, but a moſt diſagreeable odour. The milk of the female buffalo is not ſo good as that of the cow. But, ſhe yields it in much greater quantity. In warm countries moſt cheeſes are made of the buffaloes milk. The fleſh of young buffaloes, though fed with milk, is not good. The ſkin is of more value than the reſt of the animal, the tongue of which alone is good for eating. The ſkin is ſolid, pretty flexible, and almoſt impenetrable. As theſe animals are larger and ſtronger than oxen, they are employed with advantage in different kinds of labour. They are made to draw, and not to carry burdens. They are directed and reſtrained by means of a ring paſſed through their noſe. Two buffaloes yoked, or rather chained, to a chariot, draw as much as four ſtrong horſes. As they carry their neck and head low, the whole weight of their body is employed in drawing; and their maſs much ſurpaſſes that of a labouring horſe.

The female brings forth one at a birth, and goes with young about twelve months; which is a ſtill farther proof of the difference of this ſpecies, from that of the cow whoſe time of geſtation is only nine months.

The zebu ſeems to be a miniature of the biſon, whoſe race, as well as that of the ox, has undergone great variations, eſpecially in ſize. The zebu, though an original native of very warm regions, is capable of exiſting and multiplying in temperate climates.

"I ſaw," ſays Mr. Colinſon, "a great number "of theſe animals in the Duke of Richmond's, and "alſo in the Duke of Portland's parks, where they "every year bring forth calves, which are ex"tremely beautiful. The fathers and mothers "were brought from the Eaſt Indies, the bunch on "the ſhoulder is twice as large in the male, as in "the female, whoſe ſtature exceeds that of the fe-"male." The young zebu ſucks his mother; but in our climate, the milk of the mother ſoon dries up, and the ſuckling of the young is completed by another female. The Duke of Richmond ordered one of theſe animals to be ſlain, but its fleſh was not ſo good as that of the ox *.

THUS far have M. de Buffon, and others, deſcribed the moſt probable origin of this ſpecies of animals, whoſe bounds are almoſt as wide as thoſe of man, and whoſe frame is under the influence and ſo much ſubjected to variations in different climates, not only from their local ſituations, but from their being immediately in the hands, and under the direction of man.

IT will now fall under our province, to collect ſuch obſervations and facts, as will contribute to a more partial and particular account of the improvements and preſent ſtate of the ſpecies in this country, where the treatiſe before us is adapted to be ſerviceable.

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* LETTER from the late Mr. Colinſon to M. de Buffon, dated at London, December 30th, 1764.

It is evident there has been a breed of beeves, or black-cattle in England and Scotland at a very remote period; that, before the cultivation of arts and ſciences would remain wild and unimproved for many centuries; but when the iſland was invaded by its neighbouring powers, who knew the arts better than the ancient natives, proviſions became of more value, and leſs plentiful than in time of peace, the beeves, or black-cattle, conſtituted a principal part of their living, until the lands were cultivated, which conſiderably leſſened the numbers of this ſpecies for ſome time, partly from the ravages made by different ranging companies, and partly by driving them from the moſt fertile plains into the woods and thickets, where they remained remarkably wild and ſavage.

Frequent mention is made of our ſavage cattle by hiſtorians. One relates that Robert Bruce was (in chaſing theſe animals) preſerved from the rage of a wild bull by the intrepidity of one of his courtiers, from which he and his lineage acquired the name of *Turnbull.* Fitz-Stephen names theſe animals *uri ſylveſtres* among thoſe that harboured in the great foreſt that in his time lay adjacent to London. Another enumerates that among the proviſions at the great feaſt of Nevil, Archbiſhop of York, amongſt other animals were ſerved one hundred and four oxen, and ſix wild bulls; and Sibbald aſſures us, that in his days a wild and white ſpecies was found in the mountains of Scotland; but agreeing in form with the common ſort. Theſe were probably the ſame with the biſontes jubati of Pliny, found then in Germany, and may have been common to the continent and our iſland; the loſs of their ſavage vigour, by confinement, might occaſion ſome change in the external appearance, as is frequent with wild animals deprived of liberty, and to that we may aſcribe their loſs of mane. The urus of the Hercynian foreſt deſcribed by Cæſar (lib. 6.) was of this kind, the ſame which is called by the modern Germans, aurochs, i. e. *bos ſylveſtris.*

History informs us that, in earlier times, Great Britain abounded much more in beeves or black-cattle than horſes, which in all probability was the greateſt reaſon of theſe animals being obliged to aſſiſt the huſbandman in moſt of his laborious undertakings; and is yet practiſed in ſome ſmall degree both in England, Ireland, and Scotland, but of later years has been in a declining ſtate.

The ancient and true Britiſh breed of beeves or black-cattle, for many centuries was never croſſed in their breed, by freſh mixtures of cattle, nor abridged of their liberty, or of chuſing their retreat in the foreſt, or the kind of their food. Their only improvement, or degeneration, depended upon the different ſeaſons, or other accidental occurrences, independent of human œconomy. Man's dominion over the other animals of the field was no more at one time, than to deſtroy, in order to ſatisfy a craving appetite, or ſavage amuſement.

Cæsar, Strabo, and Mela, whoſe good authority have placed them amongſt the claſs of accurate obſervers, all agree that Great Britain and Ireland, in their times, were nurſeries properly adapted for rearing cattle, and in that valuable and ſtaple ſupport of ſociety, conſiſted their wealth. Alſo the hiſtory of our country gives us the ſtrongeſt reaſon to believe that the ſubjects of Great Britain, Ireland, and their dependencies conſume more animal food than the ſame number of people in any part of the globe. The accounts of ſeveral great feaſts in old times, afford amazing inſtances of the quantity of cattle conſumed (according to Maitland) in London annually. About the year 1760, 98,244 beeves, or black-cattle, were fatted for the butcher, and 194,760 calves. The reaſon is thought to originate in their great attachment for grazing, and the healthineſs and ſtrength of their ſubjects, who lived on animal food. But ſince trade and commerce have flouriſhed ſo much in Great Britain, various experiments have been tried for improving the ſtock of black-cattle, by introducing different breeds into almoſt every part of this country, where, in ſome places, they have been of conſiderable advantage to the farmer and grazier, and in others to the contrary.

The Britiſh breed of cattle, Mr. Pennant obſerves, has in general been ſo much improved by foreign mixture, that it is difficult to point out the original kind of theſe iſlands. Thoſe which may be ſuppoſed to have been originally Britiſh are far inferior in ſize to thoſe of the northern part of the European continent: The ox, and other animals who feed on herbs, are not only the moſt precious, and the moſt uſeful to man; but they conſume leſs, and are maintained at the leaſt expence. With regard to this article, the excellence of the ox is ſuperior to any other brute animal; for he reſtores to the earth as much as he takes from it: He even enriches and improves the ground on which he feeds.

But theſe are not the only advantages which man derives from this animal. Without his aid, both the poor and rich would find great difficulty in procuring ſubſiſtence. He may be deemed the moſt advantageous domeſtic of the farmer, and one of the greateſt ſupports of agriculture. Formerly the ox conſtituted the whole riches of mankind in general; and he is ſtill the firſt contributor to the riches of nations, which ſubſiſt and flouriſh in proportion

portion to the cultivation of their lands, and the number of their cattle: For, in the neceſſaries of life, all real wealth conſiſts; and this animal, in moſt countries, conſtitutes the greateſt part. Every other ſpecies of traffic, even gold and ſilver only, bear the name of property; but, without being ſanctioned by the produce of the earth, they have no intrinſic value.

The ox is the only horned animal, in theſe iſlands, that will apply his ſtrength to the ſervice of mankind. It is now generally allowed, that, in the draught, oxen are, in many caſes, more profitable than horſes; their food, harneſs, and ſhoes, being cheaper; and, ſhould they be lamed or grow old, an old working beaſt will be as good meat, and fatten as well as a young one.

There is ſcarce any part of this animal without its uſe. The blood, fat, marrow, hide, hair, horns, hoofs, milk, cream, butter, cheeſe, whey, urine, liver, gall, ſpleen, bones, and dung, have each their particular uſe in manufactures, commerce, and medicine. The ſkin has been of great uſe in all ages. The ancient Britons, before they knew a better method, built their boats with oſiers, and covered them with the hides of bulls, which ſerved them for ſhort coaſting voyages.

At preſent the hide, when tanned and curried, ſerves for boots, ſhoes, and numberleſs other conveniencies of life.—Vellum is made of the thinneſt calf-ſkins, and ſkins of abortions. Of the horns are made combs, boxes, handles for knives, and drinking veſſels; and, when ſoftened by water, obeying the manufacturers hands, they form pellucid laminæ for the ſides of lanthorns. Theſe laſt conveniencies were invented by the great king Alfred, who firſt uſed them to preſerve his candle time-meaſurers from the wind; or (as other writers will have it) the tapers that were ſet up before the reliques, in the miſerable tattered churches of that time. The very ſmalleſt fragments, and even the duſt and filings of horn, are found very ſerviceable in manuring cold lands. The matter lying within, on which the horn is formed, is called the *ſlough*, and, when dry, is uſed in making walls or fences, in which, covered from wet, it will laſt a long time. It is alſo moſt admirable in mending roads, where the ſoil is ſoft and ſpewy; for, diſſolving, it becomes a glutinous ſubſtance, that binds amazingly with gravel. As a manure, they allow between two and three quarter-ſacks to an acre. Horn ſaw-duſt with mould is an excellent compoſt for flowers. It is alſo of uſe in hardening, and giving what is called a proper temper to metals. In medicine, horns were employed as elixipharmics, or antidotes againſt poiſon, the plague or the ſmall-pox; they have been dignified with the title of *Engliſh baſoar*, and are ſaid to have been found to anſwer the end of the oriental kind.

The teguments, cartilages, and griſtles, for the indifferent—and for the finer, all the cuttings, parings, and ſcraps of hides—are boiled in water, till the gelatinous parts of them are thoroughly diſſolved; and the maſs properly dryed, becomes glue.

The bones are uſed by mechanics where ivory is too expenſive; by which the common people are ſerved with many neat conveniencies, at an eaſy rate. From the tabia and carpus bones is procured an oil much uſed by the coach-makers and others, in dreſſing and cleaning harneſs, and all trapping belonging to a coach; and the bones calcined afford a fit matter for teſts for the uſe of the refiner in the ſmelting trade.

The blood is uſed as an excellent manure for fruit-trees, and is the baſis of that fine colour the Pruſſian blue. The ſinews may be prepared ſo as to become a kind of thread or ſmall cord, uſed in ſewing ſaddles, in making racquets, and other things of a like nature. The hair hath alſo its value, and is employed in many different ways. The long hair of the tail is frequently mixed with horſe-hair ſpun into ropes and ſometimes wove. The ſhort hair ſerves to ſtuff ſaddles, ſeats of ſeveral kinds, mattreſſes, and chairs. The refuſe is good manure, and operates more ſpeedily than the horns. The fat, tallow, and ſuet, furniſh us with light; and is alſo uſed to precipitate the ſalt that is drawn from briny ſprings. The gall, liver, ſpleen, and urine, had alſo their place in the materia medica, though they have now reſigned to more efficacious and agreeable medicines. The uſes of butter, cheeſe, cream, and milk, in domeſtic œconomy, and the excellency of the latter in furniſhing a palatable nutriment for moſt people, whoſe organs of digeſtion are weakened, are too obvious to be inſiſted on.

M. de Buffon, has given a ſatisfactory account, to every candid enquirer, that the wild and domeſtic ox, of Aſia, Africa, Europe, and America; the bonaſſus, the aurochs, the biſon, and the zebu, are animals of one generation and ſpecies—*Buffon, vol.* 6. *p.* 188.

And that the variety found and deſcribed by natural hiſtorians, entirely ariſe from the great difference of ſoil and climate. Long habituation to one kind of life and ſituation, hath given riſe to peculiarities, which to many minds ſeem unaccountable, yet in reality are perfectly reconcilable to the laws of nature. Were a foreigner to travel through England, Scotland, and Ireland, for information in natural hiſtory, he probably would be led to find as many different ſpecies of this animal as the ancient and romantic travellers have done, in a circumference of twelve thouſand miles which at laſt is found to be, only the ſame animal under ſuch diverſity of ſize, ſhape, and mein, from a variety of circumſtances.

The largeſt cattle in the Britiſh dominions are ſaid to be of Holſtein or Dutch breed, and the cows of this kind are juſtly ranked amongſt the firſt for affording large quantities of milk; but their ſize and delicacy of conſtitution require better paſture, and greater care than can be found in many parts of this kingdom. Therefore they are only partially ſcattered over a few of the moſt fertile counties on the eaſtern ſhore. In the neighbourhood of London this breed of cattle is very advantageous to the landholders, on account of the large quantities of milk they give; for, where the land is rich, and in an improved ſtate, they are often healthy and thriving; but where the ſituation is rather of a poor and ſteril nature, they are a very unprofitable ſtock.

The very great ſize that ſome of thoſe cattle may arrive at, through a peculiar judgment in rearing and feeding, was inſtanced by Mr. Edward Hall, an eminent land-holder at Whitely, in Northumberland, who fed and killed an ox, in March 1789, only ſeven years old, which weighed, without the offal, one hundred and eighty-ſeven ſtone fifteen pounds—fourteen pounds to the ſtone; and it meaſured, from the head to the rump, nine feet eight inches and a half; its height on the ſhoulders five feet ten inches. *Hiſtory of Quadrupeds.*

THESE are not deemed a handſome race in England, but rather the contrary, from their great diſproportion of parts, or their being ſo much unlike what we call well made cattle. Their horns are ſmall, ſhort, and crooked, inclining upwards, almoſt to meet each other at the points, their head remarkably ſmall, their countenance rather depreſſed than ſprightly, their necks long and ſmall, alſo rather light and thin in the ſhoulder, their backs ſtand high, and their bellies large, which cauſes them to hobble in their gait, as if they had more to bear than their ordinary ſhare; they are long in the leg, but not very ſtrong, wide and high in the buckles, and a remarkable ſhort and ſmall tail with very little hair upon it; in colour, they much incline to be irregularly pyed or griſſeled, which is more peculiar to this breed than any other; their milk is not ſo rich in quality as ſome others, but they afford it in much larger quantities than almoſt any we have; they have much thinner ſkins, and always require to be kept dry, and from the inclemencies of the weather, more than any other breed.

Many eminent land-holders, in different parts of Great Britain, of late years, have paid much attention to the improvement of the ancient ſtock of cattle; and, much to their credit, have ſet an example worthy imitation of the firſt characters of the age; ſo great has been the emulation among cattle-breeders, that expence was the laſt object that they would not encounter, to eſtabliſh that fame which only centres in being happy to do their country an eſſential ſervice.

Mr. Bakewell's breed of cattle has of late engroſſed the attention of breeders, and the public in general; and, from the enormous prices they ſold for, may be allowed, with a degree of propriety, to be the firſt race in his Majeſty's dominions.

Mr. Marſhall, in his rural œconomy of the Midland counties, obſerves, "That from the long horned Lancaſhire breed, the preſent improved breed in Liecеſterſhire is traceable. By the moſt indiſputable evidence, from bulls brought out of Lancaſhire and Weſtmorland, and cows from the banks of the Trent, the celebrated Canley breed, the property of Mr. Webſter, derived its origin; and, about fifty years ago, it was eſteemed the moſt valuable in this kingdom. From this breed Mr. Bakewell obtained his preſent ſuperior ſtock of cattle; and ſeveral other eminent breeders are alſo indebted to the ſame origin, for the celebrity they have ſince attained." *Hiſtory of Quadrupeds.*

THE principal uſe of the bull, is for the propagation of the ſpecies, and the moſt requiſite part that can be told to a grazier or farmer, is to chuſe his bull or cow from a healthy ſtock, if his intention be to breed; but to attempt a deſcription of the ſize, beauty, and other appendages, requiſite to form an animal for general approbation, would be idle and impertinent; every land-holder ought to learn for himſelf what will beſt ſerve his ſituation, and the manner of ſtocking his farm.

THERE is ſcarce any race of cattle but what may be improved, if the ſoil, on which they are reared, is capable of being amended; and there are many ſituations that will gradually degenerate its ſtock, if not choſen proper for the place; therefore, as a farmer learns his art, he ſhould always ſtudy the nature of cattle, or his trade is only learnt by halves.

THE ancient and modern breed of cattle, in Lancaſhire, Weſtmorland, and Cumberland, have always been allowed to be the handſomeſt in their ſhape, and moſt beautiful of any race in the Britiſh dominions. A deſcription of which I here inſert from the Univerſal Dictionary of Arts and

Sciences, as univerſally received by able judges of the animal. "A round, tight, cylindrical carcaſe; "wide in the hips, but very little prominency in "the huckle-bones, ſtraight on the back, well filled "behind the ſhoulders, a neck long and fine, without any ſuperfluous ſkin underneath (entirely "reverſe to the ancient beauties in cattle, whoſe "greateſt ornament was a large dewlap) the horns, "long and taper, bending downwards, and of a "deep yellowiſh colour, the head fine and ſmooth, "long and yet ſmall, ſhort legs, ſtanding wide and "firm, the tail fixed in a medium, not ſo high as "to interfere with the ſtraightneſs of the back, "nor ſo low as to leave any want or vacancy in "the line, the ribs forming a regular convexity, "particularly that called by the graziers the firſt "rib, but more properly ſpeaking the laſt; its being the hindmoſt in the beaſt."

I hinted before, that there is no particular ſhape exiſting to pleaſe every eye, and to be conſiſtent with nature; and only give this account, as a ſpecimen of this particular race now under conſideration.

From ancient, but well authenticated accounts, we have reaſon to believe, that the true Lancaſhire cattle are deſcendants of the old Engliſh race, called the ſavage breed.

THIS opinion is founded, from the minuteſt enquiry that can be made, in the hiſtory of thoſe times, and the analogy between the accounts, and what are at preſent deemed facts, have the ſtricteſt reſemblance to each other, and will, without doubt, warrant a belief of the aſſertion.

THE cattle of this breed have many peculiarities about them, ſcarcely to be met with in any other country or climate: the horns have a ſtrong likeneſs to thoſe of the old ſtock; alſo the colour, which ſtill borders on the white or yellowiſh, with only the external differences that always accompany domeſticated animals. They are particularly noticed for being the moſt healthy, ſprightly, and active of any in theſe realms, &c.

IF any cattle of this ſpecies were really uſeful in the laborious avocations of tillage, this breed ſeems to poſſeſs the powers and activity to perform the taſk.

THIS much admired race are commonly known by the appellation of the long horned kind of cattle; and as every natural hiſtorian, both ancient and modern, has ſo ſtrenuouſly ſupported the great advantages derived from the labour of oxen, in preference to horſes, both in teams and the general working of huſbandry; it may be admiſſible to point out one conſiderable inconveniency that has hitherto exiſted, which may be eaſily removed. And as this breed poſſeſs more requiſite qualifications for labour, than any other, it is pleaſant to an individual, and advantageous to ſociety, when any improvement is added to the common ſtock of knowledge.

The horns of this breed are both dangerous and inconvenient, owing to their length and pointedneſs when at work, and more eſpecially when firſt breaking in.

The following method of eradicating the horns, without the leaſt inconvenience, has been practiſed with ſucceſs by Mr. John Aitken of Kirkbank, in Annandale, North Britain, an experienced and judicious farmer, upon the eſtate of Lord Hopetoun.

The moſt proper time to perform the operation is, on a calf, at the age of two or three weeks, or between the two; and whoever wiſhes to make the experiment, without much knowledge of operative practice, may almoſt inſure himſelf of ſucceſs; at this period the horns have juſt begun to grow, and may be found looſe between the bone of the ſkull and the ſkin; the ſmall knobs, or horns in embryo, will be found of a griſtly nature, in ſubſtance much ſofter than horn, and more compact than the ſkin;

they may be cut on each ſide, but not to the bone, there being ſpace enough between the horny part and it. The operation may be performed by a ſharp knife, or ſome other inſtrument, and the horn taken out—then the wounded part ſhould be immediately ſeared up with an iron inſtrument, hot enough to ſtop the bleeding, and keep out the external air—there is no danger, in thoſe parts, of bleeding too much, but the ſooner they are ſeared, after cutting, the better.

If the calf be deſtined to keep within doors, there is no danger of its taking cold in the wounded part; neither is there without doors, unleſs the weather be very unſeaſonable; and even then, the danger may be prevented by a ſmall plaiſter of pitch, or other ſticking ſubſtance, over the wounded parts, which are often known to be healed in a very few days.

The firſt and moſt obvious requiſite, is beauty of form; a principle which has been in common applied to every ſpecies of domeſtic cattle, and, with a great ſeeming propriety, was ſuppoſed to form the baſis of every kind of improvement, under an idea, that beauty of form and utility were inſeparable; but, at preſent, a diſtinction is made, by men who have been long converſant in practice, between a uſeful ſort, and a ſort that is merely handſome. Utility of form is therefore the next general principle, and may be conſidered as ariſing from a large proportion of thoſe parts which are the moſt uſeful: Thus, for inſtance, all thoſe parts that are deemed offal, or which bear an inferior price, ſhould be ſmall in proportion to the other parts.

Another principle of improvement, laid down by breeders, conſiſts in the fineneſs of the muſcular parts; or what is called fleſh. But the greateſt object, which engroſſes the attention of breeders, at preſent, is the fatting quality, or a natural propenſity in cattle to arrive at a ſtate of fatneſs at an early age, and in a ſhort ſpace of time. And it appears from obſervation, that beauty and utility of form, the equality of the fleſh and its propenſity to fatneſs, are principles conſiſtent with each other, frequently found united in the ſame individual, and hereditary in particular lines or families of cattle.—In regard to the means of improvement, it has been an eſtabliſhed maxim, that, to improve the breed, it is neceſſary to croſs it with an alien ſtock; under an opinion, that, continuing to breed from the ſame line, weakens the ſtock. This idea, however rooted it may have been in the minds of former practitioners, is entirely ſet aſide by the modern practice of breeding, not from the ſame line only, but from the ſame family; the ſire and the daughter, the ſon and the mother, the brother and ſiſter, are now permitted their own kind. This practice is well known by the term of breeding in and in; and in this way the ſeveral breeds have improved rapidly, to a height unknown in any age or nation.

The practice of letting out bulls by the ſeaſon, has contributed very materially towards the improvement of this valuable breed, as, by this means, one bull, inſtead of being uſeful to his proprietor only, may, in a few years, extend the benefits of his ſtock through a whole diſtrict; and ſo fully are the ſtock-maſters convinced of its advantages, that eighty guineas has been given for the uſe of a bull, for one ſeaſon. Some bulls are in ſuch eſtimation, as to leap at the extraordinary price of five guineas a cow: And, it is perhaps, a circumſtance worth mentioning, that Mr. Fowler of Rollright, in Oxfordſhire, in 1789, for ten bull-calves refuſed five hundred guineas.

Great improvement has alſo, of late years, been made in the old Lancaſhire breed, both in ſize and beauty. Craven, in Yorkſhire, has been long celebrated for a ſuperior variety of the long horned kind. And from thence the graziers of Weſtmorland and Lancaſhire purchaſed the flower of their heifers, which, by croſſing with the original ſtock of thoſe counties, have produced a breed, which is now had recourſe to, for the improvement of this kind of cattle, in every part of the kingdom. Some of the bulls are extremely large. Their horns are not long, but beautifully turned, their hair ſhort and ſmooth, their creſts are extremely high, their cheſts are let down to their knees, their bodies are long and in the form of a perfect cylinder.—*Hiſtory of Quadrupeds, publiſhed by S. Hodgſon, New-Caſtle.*

In many parts of England and Scotland, there are, ſcattered about, a hornleſs breed of cattle called Engliſh; they are ſtrong made, and of a tolerable ſize and ſhape; they were originally brought from Poland; they have nothing very particular or advantageous, and are oftener found with the curious than with the farmer or grazier.

There is beſides, another race that claim a right to a diſtinct breed, but are only partially ſcattered in this country; they are diſtinguiſhed by the name of ſcurred cattle, with horns about four or five inches long, which hang pendulous and looſe, and ſeem to be no more attached to the ſcull than the ears; they are, in ſize and ſhape much like the former, and would both continue their breed, without variation, if not croſſed with others; they are both healthy and uſeful cattle, and fit for thoſe climates.

In Wales, their cattle are much like thoſe in the neighbouring counties in England, except in the mountainous parts, where they have a breed peculiar to the ſituation; they are in ſize ſomething larger than the Kyloe or Highland cattle, and are known by the name of Welſh runts; they are remarkably ſtrong and hardy; they grow fat very ſoon, when taken to graze into the lower and richer lands; their beef is extremely fine, and of an excellent flavour.

There are various other breeds of cattle in England, that differ from the ſuppoſed original race, in a trivial degree only, many of whom may be imputed to a degeneracy ariſing from ſituations, or ill management in rearing and treating them, alſo by mixed breeds from different parts of England and Scotland.

Scotland produces a greater variety and diſtinction, in her different breeds of cattle, than England, both in ſize and form; yet they ſeem as well adapted to their country and climate, as any ſtock whatever.

In ſome ſhires, in the neighbourhood of Edinburgh, the Holſtein or Dutch breed are their principal ſtock, and are very profitable where properly managed. The cattle-breeders, in general, rear excellent cattle of this kind; but the common people, and ſmall farmers, who know not the nature of their conſtitutions and wants, ſuffer many to periſh annually, by denying them the neceſſary quantity of food which the frame requires for its ſupport. It is not uncommon, in many parts of Scotland, to ſee cows in a tedder, where there is very little to be ſeen that is fit for food; and their want of ſuſtenance is ſtill more evident in their lean and meagre carcaſes.

The Kyloe or Highland breed, are the ſmalleſt and hardieſt of any in Great Britain, or Ireland; they will thrive under the ſevereſt climate, and upon coarſer and leſs food than almoſt any other race in Europe; their colour is generally black, with ſmall white horns, finely tapered and pointed with black; they are very ſharp and dangerous, and incline forward; they weigh, when fatted, about thirty or forty ſtone the four quarters; but there has been known of them, when full grown, not to exceed ſixteen ſtone the whole carcaſe, without the offal, and others above ſeventy;—Yet, upon the whole, they are allowed to be a very even breed of cattle with reſpect to ſize, where the paſture and mode of rearing bear any ſimilarity; if they produce any of an enormous ſize or fatneſs, it is generally when the beaſt has been taken from its native place, or has received treatment different from the common mode of rearing them.

THIS may ſerve to convince us that the ſize of cattle depends more on the richneſs and quantity of their food, than on the race from which they ſprung.

THE ſituation, where thoſe cattle are reared, is ſuppoſed much more elevated than many parts of Scotland, and is almoſt entirely appropriated to rearing black-cattle and ponies. They are reared in very great numbers, without ever conſulting whether the paſture will be adequate for their ſupport: this is one of the greateſt reaſons why they are ſuch ſmall cattle in general; experience has proved that, when they are removed but a trivial diſtance from the place of their nativity, and allowed plenty of rich paſture, the ſame race will become cattle of a large ſize, and very ſtrong in bone, in a few generations.—Their form does not come under the deſcription given of a handſome beaſt of the cow-kind;—yet they have what the breeders call beauties peculiar to themſelves, independent of any general rule laid down; their hair is remarkably thick and furry; their fleſh is fine in grain, and of an extraordinary flavour, allowed to exceed in fineneſs any other race in this country.—The Highland ox or heifer generally commands the higheſt price for their weight of carcaſe, when lean, of any ſort of live cattle whatever, when at a proper age for fatting.—They are brought and ſold at the Northern fairs in England, in very large droves, and the graziers of thoſe parts, and the neighbouring counties, find them to exceed thoſe of any other country for growing fat in a ſhort time, and upon the commoneſt paſture.—When they are purchaſed at a certain age, and put to grazing in rich graſs, they gain conſiderably in ſize at the time they are fattening. Notwithſtanding the extreme hardineſs thoſe cattle acquire, from their mode of rearing and ſituation; they are expoſed to many fatal diſorders that originate in the extremes, or inclemencies of the weather, and the proprietors may not always be provided with an antidote.

High lands are always found to produce more active and ſprightly ſtock than fens and low-grounds, but are often leſs in ſize, and when any extremity in the weather takes place, the Highland ſtock is moſt materially affected in their ſituations, either by drought or ſtorm, which demands particular attention in either caſe.

When dry or hot weather viſits us ſucceſſively, for a conſiderable length of time, black-cattle always feel the firſt effects, from an abridgement of the nouriſhment they have been accuſtomed to, not only from its leſſening in quantity, but from the nature of it undergoing a change, by being deprived of the ſucculent quality that vegetation affords in common: Alſo the want of water is almoſt a conſtant attendant of dry or hot weather, which is as requiſite as food for thoſe animals—and when theſe two wants come together, it cannot be wondered at, if diſorders of ſome kind or other make their attack on ſome individuals of the herd, in a very ſhort time.—The murrain, or red-water, is moſt to be feared from the afore-mentioned circumſtances; and it would be adviſeable for thoſe who have their herds thus expoſed, from their ſituations, to get into poſſeſſion of the moſt probable means of prevention, and to practiſe before total loſs force itſelf into the account.

When their food is abridged, either in quantity or quality, great care ought to be taken that their water be good, and in great plenty; and if it be attended with a ſmall inconvenience to procure, it would be better to forego that, than riſk a greater loſs.

It would be of particular ſervice, in preventing diſorders from attacking cattle, in ſeaſons as above alluded to, if, by any means, a ſmall portion of common ſalt could be given every day, either in water, or any other part of their aliment, (or a little epſom, or glauber ſalts, or ſalt-petre) but, in this country, it might be found difficult to adminiſter, on account of their never learning to eat it, and more eſpecially where the herds are numerous, and not in a ſtate of domeſtic familiarity.

In a reverſe ſtate of weather, when the ſeaſon is cold and rainy, for any conſiderable length of time, cattle of every deſcription ought to be ſcreened from it, by ſhades or other conveniencies, to prevent the inclemency of the ſeaſon, from ſtarving them with wet and cold; for, when they are much expoſed it ſhuts up the pores of the ſkin, and prevents inſenſible perſpiration, which in part is always a neceſſary function in the animal œconomy.—In cold ſeaſons, if the animal be kept tolerably dry, and the water be good, it will be of material advantage to them; and alſo, at this time, ſalt would be of great ſervice in making them ſeek for water and drink freely. There are numerous herds of cattle, in the Highlands of Scotland, that are ſerved, both in ſummer and winter, with much leſs portions of food than nature requires to ſupport life, and brave the rigour of the ſeaſons, which may juſtly be imputed to be the forerunner of many diſorders, that will ſtill be inevitable, without more generous treatment.

Many ſhires, in the North of Scotland, rear very large and ſtrong cattle, owing to their graſs being more plentiful and rich; but the moſt famed part of Scotland, for breeding heavy cattle, is Fifeſhire.

The cattle-breeders, in this and the neighbourhood, pay great attention to the rearing of their ſtock. There the oxen are generally as heavy, and well grown, as thoſe in many parts of England, and their fleſh equally good.—It is always obſerved, that, where rearing black-cattle is the favourite branch of agriculture, the ſtock is moſt healthy and thriving, and freeſt from every ſpecies of local diſorders.

They have another breed, called the Dunlop cows, which are allowed to be the beſt race for yielding milk, in Great Britain or Ireland, not only for large quantities, but alſo for richneſs in quality. The beſt dairies in this country, are in Dunlop, and their cheeſe will fetch a greater price, than from any other place in the country.

This breed is ſaid to be a mixture, by bulls brought from the iſland of Alderney, and their own cows. They are of a ſmall ſize, not weighing more, upon an average, when fatted, than from twenty-four to thirty ſtone the carcaſe, without the offal—they are allowed to yield more milk daily, than any other kind of cattle, when a juſt compariſon is made of their ſize and paſture.

They are much leaner and thinner than any other of the Scots or Engliſh breeds, when in the beſt graſs; the males are ſcarcely ever kept for oxen, but ſent to market as ſoon as they become fit for the butcher. It is found much more profitable to uſe their milk in the dairy than feed calves, except it be the females that they rear for ſtock.

THEY are not deemed a race of handſome cattle, but rather the contrary, being ſhaped more like the Dutch breed than any of the natives of Scotland—their horns are ſmall, and ſtand remarkably aukward; their colour is generally pyed, or of a ſandy red, varying in this from all other races. In thoſe parts the cattle, in general, are black; they are moſt common in Airſhire and the Weſt of Scotland, and are a very hardy race; they will live upon poor paſture, and may, with propriety, be called the beſt poor man's cow, to be met with in any of theſe iſlands.

THE next race is that of the Galloway kind, an ancient and well known breed; they are driven to England in great numbers annually, and ſold at high prices; they are larger than the Highlanders, and uniformly hornleſs, if not croſſed with other breeds; their colour is generally black, or ſome times a little external diverſity, ſuch as pyed or white on the face.—They are eſteemed a very handſome race, and ſo great a ſimilitude exiſts amongſt them, that it is no uncommon thing to ſee, in one herd, twenty cows and a bull (in the neighbourhood of Drumlanrig, a ſeat of the Duke of Queenſberry) of this breed, all black, and nearly of the ſame ſize and ſhape of each other.—The landholders, in general, are ſo attached to this, their favourite kind, that they would not ſuffer any intermixture whatever into their ſtock.—They are ſenſible that the race ſuits their paſture, and perfectly contented with the advantages derived from them.—They are found almoſt invariably in good health and condition, which redounds much to the honour of the cattle-breeders in that country.—This breed extends to many ſhires, beſides that which gives them their name, and they ſeem to be the beſt calculated, to be of the moſt ſervice (in hilly and uneven countries, where they are accuſtomed to breed for grazing) of any race we know of.

IRELAND claims a pre-eminence, over every other part in his Majeſty's dominions, for rearing large quantities of cattle. The country, in general, is ſo happily ſituated for breeding all kinds of uſeful and domeſtic animals, that it may be juſtly ſtiled a complete nurſery for live ſtock.—Their breed of black-cattle ſeems to be the ſame all over the iſland, with only thoſe trivial differences found in all diverſity of ſpace, except in the North, where it borders upon Scotland, their cattle have ſome ſmall reſemblance to thoſe in that country.

The counties of Cork, Limerick, and Tipperary, with a few neighbouring ones, can boaſt of rearing the greateſt numbers of black-cattle, for the extent of land, of almoſt any part in the known world.—Ireland exports ſome thouſands of carcaſes annually, beſides leaving a ſufficiency of proviſions for its inhabitants. Their cattle ſeem to be entirely free from any foreign mixture, having their own peculiarities in ſhape, reſembling none that have been imported into England or Scotland. They differ, in a ſmall degree, from thoſe ſuppoſed to be of the true Engliſh race; they are conſiderably longer in the leg, and much taller for their weight, in every reſpect, than the former, and leſs proportionate in their parts, eſpecially in the hind quarters, which are much lighter, in proportion, than the Engliſh ox. A large well grown beaſt will weigh from eighty to a hundred ſtone the carcaſe, without the offal, and thoſe that are inferior in ſize will average ſixty or more. It is owing to the abundance of neat cattle reared in Ireland, that our fleets are ſo much better victualled than thoſe of almoſt any other power.—They are remarkably ſtrong and healthy, and will bear driving to a conſiderable diſtance.

BREEDING AND REARING.

VARIOUS are the methods that are practiſed in rearing calves, and every one thinks his own way a maſter-piece in that art; or doubtleſs they would ſeek for ſome information more practicable: many eminent authors have written on the ſubject, and many experiments have been tried, both in rearing and fattening for the butchers.—In the latter caſe to make them fat, and the veal of a good colour when killed, are preſumed the two greateſt requiſites in feeding for ſlaughter, and in the firſt, a well guided choice in the ſubject, that it be fitting for the country where it is intended to be reared, with the method of preſerving health, and a practical knowledge of food and its diſtribution at different ages; alſo, the effect of ſeaſons and climate, on the frame, while under the various changes they undergo in coming to maturity.

From an inſtinctive principle in this ſpecies of cattle, that nature has inſtilled, the cows always ſhew an inclination to clean and dry the ſkin of their young, by licking with their tongues all that ſliminеſs which is natural and unavoidable in their ſituation before birth; and when the beaſt has parted with her burthen, ſhe ought always to be ſuffered to do it, if circumſtances will warrant. However, ſome method ought to be ſpeedily put in practice to get the young dry and cleaned, from its ſtate of ſlimineſs, if the cow be weak or negligent; when they calve in the field, there is nothing to obſtruct their inclinations; but when it takes place in the houſe, and the beaſt tied faſt, it is neceſſary that ſome perſon ſhould be in the way to lay the calf before the mother upon clean ſtraw; if the calf be ſuffered to cool, before the cow could come at it, the calf would be in a very diſagreeable ſituation in a cold ſeaſon. It is common, and of great ſervice, to ſtrew a ſmall handful of common ſalt over the calf, which is often found agreeable to the cow, and urges her on to her duty. When the calf is licked dry it is much ſtrengthened; its mouth and roots of the tongue ſhould be waſhed, with a little common ſalt and water, to clear it of the ſaliva and clamminеſs always in the mouth of a calf newly dropped, or if convenient, a freſh raw egg and a little common ſalt may be given to the young animal to ſwallow, which will ſoon cauſe an appetite, and then ſomething more ſubſtantial may be given. When the calf is dry, it would be adviſeable, whether in winter or ſummer, in the houſe or in the field, to put it in a ſtall or fold, well littered with ſtraw or ſome other dry materials, that might keep it comfortable, until it gained ſtrength enough to travel, which would enliven circulation and digeſtion.

It is cuſtomary with many people (and never known to be attended with ill conſequences) to boil a pint of good houſehold beer, or ale, and ſweeten it well, with ſoft ſugar, to give the calf, when taken from before the cow—by others, it is ſuffered to ſuck immediately after it is dry, and by many, not ſuffered to ſuck the cow at all.

Were any of the above cuſtoms to be inſiſted on, as better than the reſt, it would be offending againſt ſome perſons' favourite practice, without being of any material ſervice to others—however, there are ſome general rules that may tend to be particularly uſeful.

The calf might, with propriety, be ſuffered to reſt an hour, after its birth, before any milk be given to it; the beer, previouſly mentioned, may be given at any time after birth, and if given at all, it ſhould have nothing for an hour after it. It would be adviſeable to take a quantity of milk from the cow, before the calf be put to ſuck, it being thought much better not to give the calf the firſt of the milk; but rather of the laſt. Too much ſhould not be given at one time, when the animal is young. Many calves die, or take diſorders, when young, owing to a want of proper knowledge and care in their keepers. They are often abridged of exerciſe, and perhaps only allowed to feed twice in one day, and then receive as much, each time, as ever their craving appetite can take; when, in all probability, one half of the quantity, given at four times in the day, with a dry place to reſt on, and room for moderate exerciſe, its health might be preſerved, while, on the contrary, death or diſorder is often the event.

The propriety of this mode will, in all probability, be called in queſtion, and the inconveniency urged of giving them the milk warm from the cow, the common cuſtom being to milk the cows only twice in a day, which has led people to judge, that it muſt be right to feed the calves twice in a day alſo:—But it would be found of material advantage, to milk the cows, and feed the calves three times in a day, rather than twice, for the ſpace of two or three months, after the common ſeaſon of calving, which is in ſpring or ſummer.—In winter, it is not ſo requiſite, the milk neither being ſo rich nor in ſuch plenty.—In many places, it is practiſed from abſolute neceſſity, the cows being unable to bear their milk, from one end of the day till the other.—It might alſo be an entire preventative from milk-cows being attacked with the ſore udder.—If it be found inconvenient to milk three times in a day, or the old cuſtom of twice be ſo rooted, that it cannot be changed, milk may be warmed, and given to the calf, with an equal good effect, taking great care that it be given no warmer than the blood of the animal.

This method may be practiſed, for a ſhort ſpace of time, either on thoſe intended for rearing or fattening for the butcher; after digeſtion and circulation have been eſtabliſhed in the ſyſtem, by care and attention, the proprietor will probably have deſtined the animal for one or the other.—Thoſe intended for veal ought to be fed with greater plenty, than thoſe that are meant for ſtock. In Ireland, and ſome parts of Scotland, the calves are taken to market for veal, at the age of five or ſix days, or ſooner. This may be owing to their being able to make more money from the milk and butter, than by feeding them for ſlaughter, or from the cuſtom of the country:—Yet on the other hand, there are many land-holders, who purchaſe young calves of their neighbours, purpoſely to fatten for the butcher, and acquire conſiderable profits by the practice; but thoſe things can only be accounted for, from certain prejudices or cuſtoms, on the one hand, and knowledge, gained by experience, on the other.

In that part of the county of Cumberland, called Abbey Holme, the land-holders are famous for fattening calves for veal; not only for ſize and fatneſs, but a peculiar mode of treatment, that renders the veal, when killed, remarkably white and well coloured, which is a great advantage in ſelling.

Some of the farmers there uſe all their milk in this way, and have always upon hand as many calves as their milk cows will feed; they always take care to have them of different ages, and then the plan is carried on with regularity; when they begin their ſtock, the calves are fed in the uſual way, until they are two or three weeks old, when they are taken to the feeding ſhed, where a couple of ſmall ſtakes, or poſts, for every calf, are driven into the ground, about ten or twelve inches from each other; the calf is brought up to the poſts, its head put through between them, with a ſtrap or cord made faſt round its neck, and from the ſtrap or cord, there is a ring on each ſide which alſo encircle the poſt. This is meant to confine the animal ſo that it cannot lick itſelf (which, if ſuffered to do, is found pernicious to its health and growing) but it has liberty enough to lie down and riſe at pleaſure; as ſoon as the animal is perfectly reconciled to its ſituation, they begin to feed it better than uſual: They are convinced, that the firſt part of the milk, taken from cows at any time, is much leſs nutritive and rich, than the latter, and ſo divide it, according to the different ages of the calf or calves, always making it a rule to give the oldeſt the richeſt part of it.— Their ſhed is kept warm, or cool, as the neceſſity of the ſeaſons demand. It is always perfectly dry, with a plentiful ſupply of good dry litter; and, if any of them fail to take their meals regularly, they are ſent to the butcher immediately, and replaced by the next in turn; if the milk improve, or leſſen, they can always regulate the ſtock by adding, or diminiſhing their numbers.

Farmers who manufacture their milk into butter and cheeſe, ſell their calves to butchers, or others, at an early age; and the calf-keepers can always afford as high prices for them as the butcher, owing to their only juſt beginning to become fleſhy. The ſhort time they have lived before, has done no more than put them into a condition to feed fat. A well fed calf, will bring two pounds and ten ſhillings, or three pounds, at near three months old, and the proprietor finds, from experience, the moſt proper time for ſelling them off to advantage. It is found, when they grow fat, and take to reſt, they take leſs food, than in a leaner ſtate, which makes the expence of keeping leſs than may ſometimes be ſuppoſed. The keepers, now and then, make a practice of mixing a little oat or bean-meal with the new milk, which is attended with advantage, if the animal's conſtitution can bear the change; for it ſometimes cauſes a looſeneſs in the body, that ſoon ſtops the progreſs of fattening, therefore, a very little will ſerve for the experiment, and the keeper ſhould be careful to deſiſt, when the change is found not to agree with the animal.

Some give three or four eggs every day, which may be broken againſt the roof of the mouth, and they ſuffered to ſwallow the ſhells alſo. The eggs ſhould be given at a diſtance from any meal.—If they are ſerved only twice a-day, the eggs ſhould be ſerved at mid-day, and if three times, they may be given in the fore part of the day. Many people recommend bleeding; but it is not known to anſwer any intereſting purpoſe, when feeding calves for the butcher.

Calves are ſubject to many diſorders, when young, which may be attributed chiefly to the want of knowledge, or attention of thoſe to whom their care happens to be intruſted.—The proprietor hath often the choice of ſire and dam, and if they be healthy and ſound, there will be every reaſon to believe the offspring will be the ſame; yet it is found that more black-cattle do, or would die, while under the denomination of calves, than at any other period. This is univerſally admitted as a fact, and muſt originate from ſome cauſe.

If we ſuppoſe Providence has entailed upon infancy a greater ſhare of ills, than upon any other ſtage of exiſtence, we may widely err; notwithſtanding the havock which is made among every ſpecies of domeſtic animals, at an early age. Rather let us believe that the all-wiſe Diſpoſer of things, has beſtowed upon man, ſuch a meaſure of rational faculties, as will eaſily enable him to attain a knowledge of his duty, to that part of the animal creation, whom he has captivated and made ſubſervient to his intereſts and pleaſure; and that the want of a neceſſary knowledge of this uſeful animal, is entirely owing to the negligence of proper application ſo requiſite to this ſimple, but uſeful ſtudy.

Record bears witneſs, through paſt ages, what progreſs the mind of man has made, in many ſciences, much more abſtruſe than the ſimple care and attention due from man to animals, who are his immediate ſervants, and abſolutely demand his care, and who are capable, by his kind offices, of rendering him, the moſt important and real ſervices, when neceſſity may urge, or ſuperfluity become taſteleſs and inſipid.

Medicine has not been of any material ſervice, in the diſorders of calves, from any practice yet diſcovered, or made known to the public; nature ſeems, at this early period of life, rather to require the foſtering hand of ſimple nouriſhment, well directed, and duly adminiſtered, than any medicinal noſtrums. Many of the diſorders that calves are incident to, are of a local nature, and differ as ſituations vary, and may chiefly be corrected, by care and ſimple treatment.

THEY are ſometimes attacked with looſeneſs, or ſcouring; and other times with coſtiveneſs, or, what is commonly called, bound in the body, neither of which are natural to the animal; but are acquired from the manner of management beſtowed on the creature. They may both ariſe from the ſame cauſe; which is, that of giving them more food at once, than their ſtomach can digeſt.

THE principal requiſites, after birth, are warmth, reſt, and food; in any of which, an abridgement or exceſs will diſorder the young frame; but when properly adminiſtered, they co-operate in ſtrengthening the neceſſary functions of digeſtion, circulation, and every other due performance in the animal œconomy.

THE ſtate of the ſtomach, ought firſt to be taken notice of, by the agreement or diſagreement of its aliment; as this receptacle is the primary cauſe, at this time, of any particular ſtate of the body. When it tends to looſeneſs, a too large quantity of milk makes its way through the inteſtinal tube mechanically, without anſwering the good purpoſes intended from food, this irritates the bowels of the animals, and ſcours their inner coats too much, and, without particular care, may not ſtop for a conſiderable time. In the other caſe, when they are coſtive or bound in the body, it frequently originates from the ſtomach being in an acrid diſpoſition, and a large quantity of milk thrown into it at once; which ſoon curdles and turns ſo hard, that the action of digeſtion has not force enough to evacuate it, in its regular way, hence diſorder and often death.

In either of theſe caſes, the ſtomach might be corrected by boiling a little rhubarb in water, and when boiled, mix the water in milk, and give them whenever neceſſity requires it. This would be the moſt plauſible method of keeping the body, from an extreme, without danger.

The many who have profited, by experience, in rearing calves, have found it moſt adviſeable to deſiſt from medicine, as much as poſſible, and, ſo ſoon as the animal begins to refuſe its food, let it go to the butcher, except the proprietor be very well aware of his ability to remove the diſorder, or chooſe to make phyſical experiments.

In rearing calves for ſtock, there are found very oppoſite views in different deſcriptions of land-holders. A farmer whoſe wiſhes are to improve his cattle, by any method that experience or expence will warrant, ſtands the faireſt chance of profiting by enquiry, and aſcertaining the improvements capable of being made, from certain given circumſtances or ſituations.

There are alſo farmers who wiſh to rear cattle with as little expence as poſſible, and accordingly begin with denying the animal ſuch portions of aliment as nature requires for its ſupport, which directly tends to degenerate the ſtock, and lay them open to various diſorders attendant only on unnatural treatment.

There are many different opinions concerning the propriety of calves ſucking their dams, or the contrary, which is called rearing by hand, and which, in all probability, will never be reconciled to the people, in general, of any part of this country. Many argue that it is the moſt natural way to ſuck, but ſince this ſpecies of cattle is domeſticated, and found to yield much more milk than will nouriſh the young, the beſt means of diſpoſal is certainly admiſſible.—It is proved, by undoubted authority, that calves will thrive as well, and grow as fat, when reared by the hand, as by ſucking their dam; even ſuppoſing their quantity of milk to be the ſame.

Many farmers, and others, have attempted to ſubſtitute other food than milk, with a view of feeding them cheaper; but ſome of the experiments that have been tried have ſtarved the patient to death, before the ſecret was found out.* And ſome others, have come more expenſive than the common method, without anſwering any better purpoſe.

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* Young's Annals of Agriculture.

The moſt common way, in the North of England, is to give milk and ſweet whey mixed together and made warm, which anſwers a tolerable good purpoſe; yet ſometimes the whey is apt to occaſion a ſcouring that is not eaſily remedied. Many people who wiſh to be kinder to them than ordinary, give an over large quantity of new milk at one time, which curdles in the ſtomach and cauſes an entire ſtoppage, that frequently occaſions death in a ſhort time.

A worthy and experienced farmer, has communicated to the world his method of feeding calves intended for ſtock; he is perfectly ſenſible, that to rear them healthy and ſtrong, is to keep them in tolerable condition at all times, as being the moſt certain mode of preventing any taint, or obſtruction in their growth. He fed them regularly, but oftener than the common way, with new and ſkimmed milk till four or five weeks old, when, after that time, he learned them gradually to take ſtrong water-gruel, made with oat or bean-meal, mixed with about the quantity of one half of what is commonly called churned or butter-milk, put in and ſtirred well together after the gruel is taken from the fire. With this only his calves were healthy, and in good condition. This had been his common mode for rearing for many years. It may not be ſo advantageous to ſmall farmers, who make butter ſeldom, as to thoſe who can churn once or twice in the week; the milk is much preferable to whey, and infinitely cheaper than milk—he gives all his whey to the pigs, &c.

THE METHOD OF REARING CALVES, BY AN EMINENT FARMER IN NORFOLK, FROM MARSHAL'S RURAL ECONOMY.—Vol. II. Page 95.

He begins about Michaelmas, and continues till about Candlemaſs.

THEIR food is ſkim-milk with a little wheat flour; they have alſo chopped turnips in a trough, and hay in a rack.

As ſoon as they learn to eat turnips freely, the pail is entirely left; the turnips affording them both meat and drink; theſe with a little hay being their only ſubſiſtence: ſome farmers give them oats and bran; but the gentleman above alluded to eſteems them dear feeding.

The time of their taking to turnips is uncertain: where there are older calves that have learned to eat turnips plentifully, the young ones readily learn, by picking up the crumbs made by the old ones.

About March, the firſt-reared are turned out among the fatting bullocks, in the day time; and in a few days, if the weather permit, are turned out altogether.

During ſummer they are kept in the clovers, or at other high keep; and by next autumn are ſtout enough to ſtand the har-yard.* This is eſteemed a main advantage of rearing calves early in the ſeaſon; for thoſe reared late in the ſpring want two years nurſing.

March 2d, 1782. Aſking a ſenſible intelligent farmer, who rears a large portion of calves for the number of cows he keeps, how he gets milk for his calves, he anſwered, "Turnips give the cows ſuch "a fluſh of milk the calves ſeldom want."

Turnips are fine things for cows: they ſcour and cleanſe them, and ſet them forward in the ſpring, when they come to be turned out to graſs; adding that cows kept at dry meat, not only loſe their milk in winter, but the beſt part of the ſpring-graſs is gone before they get to the full of their milk.

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* Straw-yard, or fold-yard.

This may be one reaſon, why cows which have no turnips do ſo badly in this country; whoſe hay is ſo dry and ſtrawy; and the graſs far from being of a ſucculent quality.

March 3d, 1782. This morning I ſtood a conſiderable time, to ſee ſome fatting heifers *break* their turnips. Being all at food, they let me ſtand among them unnoticed; and having been about four months at this employment, they performed it with dexterity, which afforded me conſiderable entertainment.

In theory it ſeems difficult for an animal, deſtitute of paws, and with teeth only in one jaw, to get to pieces a turnip, which he cannot contain in his mouth; more eſpecially when it is thrown looſe upon hard ground: one is led to imagine, that it would roll or ſlide away from him as he attempted to bite it; but no ſuch thing happens. I ſaw ſeveral turnips begun and finiſhed without being moved an inch from the place they fell in from the cart. Had the bullocks been furniſhed with paws, or even hands to hold them with, they could not have done it more dexterouſly.

Having ſmelled out a turnip they like, they preſs it hard againſt the ground, with the gums of the upper jaw applied upon the top of the turnip, toward the ſide which lies fartheſt from them, ſteadying it with the upper-lip: then inſerting their teeth on the oppoſite ſide, and biting ſomewhat upward, they take off a ſmall piece, proportioned, in ſome meaſure, to the ſize of the turnip.

Having taſted the firſt bite, and ſmelt at the broken part, they take another ſlice; perhaps not thicker or larger than a crown-piece; and thus continue to take off, or rather ſcoop out, ſlice after ſlice, until nothing is left but the tail of the turnip, and a ſhell of rind, in the ſhape of a fleeting diſh, and of a ſimilar thickneſs; carefully ſmelling between the bites, at the part they intend next to take off.

The crown and upper part of the rind they eat, but ſeem ſtudiouſly to leave the tail, and the under part of the rind, which had ſtood in contact with the ſoil.

If a bullock breaks off a larger piece than he can gather up with his tongue, as his head hangs downwards, he lifts up his head, and ſhoots out his noſe and neck, horizontally, until he gets it between his grinders. Crowns, and very ſmall turnips, he treats in the ſame way.

THIS part of the buſineſs, however, he performs ſomewhat clumſily; and it is, probably, in this act, that a ſmall turnip, or a piece of a large one, ſtarting from between the teeth, gets into the throat and cauſes ſufflation, or *choaking*.

THE tongue of a bullock is leſs flexible, and worſe adapted to the purpoſe of turning over and adjuſting a morſel of ſolid aliment, than are the tongues of carnivorous animals, or thoſe of the human ſpecies. The natural food of graminivorous is ſoft, and no ways liable to ſlip from between the teeth, in grinding; their tongues being adapted to the purpoſe of gathering up their aliment, rather than to that of aſſiſting them in chewing it.

IN ſome parts of this country, the ſituation is much better adapted for rearing black-cattle, than for cultivating grain, and where the former is practiſed, they caſtrate or geld the males, and ſpay the females; this change renders them perfectly quiet, and both ſexes are more inclineable to grow fat, and their fleſh is found to be conſiderably improved, both in fineneſs of grain and flavour.

M. de Buffon, Goldſmith, Mills, and others, have uniformly aſſerted, that the moſt proper time for caſtration is at the age of puberty, or when the different ſexes begin to have mutual affection for each other. Yet, however great the authority may be ſuppoſed, experience has taught us to believe that the principle is contrary to reaſon, and the practice inadviſeable.

The common methods of caſtrating, or gelding a male animal formerly, was either done by tying a ſtrong cord round the ſmall part of the ſtones or teſticles near the body, and ſuffering the cord to remain till the teſticles were entirely dead, and were either cut off or let remain until they dropped off themſelves, and then the animal was perfectly caſtrated; the other method was to cut off the extremity or lower part of the ſcrotum, or bag, which holds the ſtones or teſticles, which was immediately drawn out by force, and often required great exertion to extract them; but ſince anatomy has become the ſtudy of the moſt learned men, the neceſſary operations, on animals, have been greatly improved. Before any perſon attempt a performance of this kind, it is requiſite that he underſtand the circulation, in the parts he is going to practiſe upon, or he may commit errors unpardonable and irreparable. This latter method is attended with great pain to the animal, while it might be done with much more eaſe, by a practice now in the poſſeſſion of ſkilful profeſſors.

The following, is the principles of the method as practiſed at preſent, with ſucceſs, by Mr. John Stanwix, horſe and cow farrier at Bolton-Hall (near Wigton in the county of Cumberland) the eſtate of the Right Honourable the Earl of Egremont, &c.

The moſt proper age is when a calf, about two or three weeks old, in either ſex, if in health. It is preſumed that their food will be milk at this time, which is by much the moſt favourable diet when under this operation, alſo the animal functions are ſo far matured as will perfectly warrant the undertaking, if performed with ſkill; it requires expertneſs and a knowledge of the parts, and when thoſe perfections meet they render the practice eaſy and ſafe.

To prepare for the operation it will be neceſſary, in the firſt place, to be provided with a ſtrong cord (woollen is the beſt) and with it tie the hind legs together, in the ſame manner as is commonly uſed with cows that are ticklifh and ſtrike when milked; it ſhould be made very faſt, and the feet at the diſtance of about four inches from each other. Then the calf muſt be turned over upon its breech, and the operator ſet one knee upon the cord between the hind legs, which are tied together, while another ſtrong perſon ſtands behind the animal, and holds the fore-part of it in a leaning poſture, which expoſes the teſticles or cod in a proper elevated ſituation, and deprives it of the power of reſiſtance; this being done, the operator takes a ſharp knife, and with it cuts through the outer and inner ſkin on the outer ſide of the teſticle, making a ſlit large enough for it to turn out eaſily, then the ſpermatic veſſels muſt be ſeparated from the ſtone or teſticle, and cut from it at the lower end where it adheres, then the ſtone will be eaſily drawn, and without much pain to the patient.

The ſtones, or teſticles, are glandular ſubſtances, the office of which is to prepare the ſeed, or ſemen, for the purpoſe of generation; the nutrient and other veſſels convey the blood from the kidneys into the ſtones, or teſticles, and the vaſa deferentia or ſpermatic veſſels conduct the ſeed back again towards the penis: the blood veſſels are eaſily known from the other by their bluiſh colour, the latter being whiter and more like a ligament or tendon, and are much ſtronger, and require more exertion when drawn, than the blood veſſels. The ſpermatic cord, when broken, always cauſes conſiderable pain to the patient, which is never felt in the modern improved practice; the vaſa deferentia, or ſpermatic veſſels, ſeem to originate near the extremity or lower end of each teſticle, and adhere cloſely to the inner ſides of them, until they reach the body again; yet they may be eaſily ſeparated from the teſticle, when the operation is performed.

Spaying, or caſtrating the female, ſhould be performed at the ſame period as the male, and the ſame precautions are neceſſary for the one as the other. The ſtones, or teſticles, of the female, are very ſmall at the age of two or three weeks, they lie near the kidneys, and receive their nutriment from the ſame ſource as thoſe of the male; and, when they are ſpayed, at the age above alluded to, the teſticles, and their nutrient veſſels (commonly called the pride of the ſtones) along with the calf-bed or lye, muſt be all cut away.—But, if the animal be older, the calf-bed is left, from the apprehenſion of the wound bleeding too much. Great care muſt be taken that the place where the operation is performed be not expoſed to any ſtorm, or cold ſharp winds, as the external air is very prejudicial to the tender wounded part. The beaſt ſhould be kept indifferently quiet and warm for the ſpace of two or three days, and at the ſame time it ſhould not have the uſual proportion of food, but ſhould be abridged more than one fourth, until it is recovered when it may live as uſual.

After the calves arrive at the age of a month or two, they are not liable to ſo many diſorders, nor do they need ſo much attention as before; but when winter approaches, the diſorder commonly called black-quarter, or gargut, makes great ravages in many parts of the country. It has been obſerved generally to attack the beſt of the herd, and it is rare that any recover from the malady.

The above-mentioned Mr. J. Stanwix has practiſed a method to prevent the diſorder, which has hitherto been attended with ſucceſs; this diſorder is generally allowed to originate in the over groſsneſs of the blood, and is noticed to be fatal at that ſeaſon when the atmoſphere tends moſt to condenſe the fluids of animals. The firſt appearance of the diſorder is often found in the joints and legs, and is ſuppoſed to ariſe from a ſtoppage, or impediment in ſome veſſel or veſſels in thoſe parts, and the attempt to prevent it, has convinced many, that its practice might be of general utility. About Michaelmas, in their firſt year, is the moſt proper time for the operation, which ſhould be done as follows. In the fore-part of each foot there are ſeveral ligaments or ſinews, and by cutting through the ſkin, about an inch above the ſlit, or parting of the hooves, the cut to be continued for an inch and a half, or two inches upwards, when the ligaments or ſinews will appear, there will be found alſo accompanying the ligaments or ſinews, a ſtrong blood veſſel of a bluiſh colour, (the ligaments or ſinews are of a white colour, and very compact in their texture) this veſſel muſt be raiſed from the other, by a crook-pointed inſtrument, until the operator can take hold of it with his finger and thumb:—then, with the other hand, cut about an inch of the vein entirely away, this will prevent it from ever uniting again, by which means the circulation in this part will be thrown into another channel, and thereby become a preventative to the diſorder; every limb of the beaſt muſt undergo a ſimilar operation, and care is requiſite, in keeping the wounded parts as dry and free from the cold air as poſſible; the eaſieſt method of performing the operation will be, by throwing the animal down upon a ſoft place, and tying its feet ſo faſt to a ſtake or poſt, that it cannot get them looſe before the completion of the performance.

Black-cattle vary, like the reſt of animals, with reſpect to the time they arrive at puberty, or be able to copulate and propagate the ſpecies. Some natural hiſtorians, of eminence, have limited the cow at eighteen months, and the bull at two years; but it has no fixed criterion from age, both ſexes having been known to copulate with effect at the age of twelve months, and it is proved to be more general at that age in the bull than the cow; but they would both be much better reſtrained until they have come nearly to maturity or full growth, which is about four years old; and, when they are ſuffered to breed ſooner than three, it tends to degenerate the ſtock. The moſt general and advantageous time for cows to take the bull, is from the beginning of May till the middle of July, and the time of geſtation, or going in calve, is about nine months, it produceth veal in the markets from the beginning of January to the end of April; but, from good or ill treatment, they may be had to calve at any ſeaſon of the year. They have but one calf at a time, in general, yet ſometimes they have two or three at one birth; and it may not be unworthy notice that there are found cows naturally barren, and this is ſaid to happen when a cow brings two calves at one birth, the one a male and the other a female. The former is a perfect animal, and the latter is incapable of propagation, and is known to the farmers by the name of a *free-martin.* Its ſize and figure is generally as other cattle, and ſome people have given its fleſh a preference in grain and flavour; but experience has ſettled that as merely accidental. The age of cattle may be known for a ſhort time by their teeth. The firſt fore-teeth fall out at the age of ſix months, and are ſucceeded by others of a darker colour and broader. At the end of ſixteen months, the next milk teeth likewiſe fall out; and at the beginning of the fourth year, all the fore-teeth are renewed, and then they are long, pretty white and equal: However, as the animal advances in years, they become unequal and blackiſh.

The horns of black-cattle is another criterion where a judgment may be formed in part, when the ſigns of the teeth become unintelligible: at the age of three years, the horn is ſmooth and handſome, and when they arrive at their fourth year there appears a horny ring or cylinder, and every year produceth another in like manner all round the horn; then by allowing three years, independent of this ring or knot, every one of them ſignifies one year older while the animal lives.

The moſt neceſſary part of ſtudy, in the nature of animals, and the diſorders they are incident to, is—Firſt, how far the ſituation and climate, or quantity and quality of provender will fit its frame and conſtitution—Secondly, the formation of its ſtomach and the digeſtion of aliment: and, Thirdly, the circulation of the blood, and the other fluids, in the larger and ſmaller veſſels; and it is only a perfect knowledge of the component parts that can conſtitute any perſon a judge of the whole body.

The bull, cow, and ox, generally live about fourteen years; but they begin to fail in their carcaſe and milking about ten. This animal is claſſed among the moſt perfect of ruminant animals. It has no fore-teeth in the upper jaw; but the gums are pretty hard, and the tongue rough. This roughneſs is occaſioned by numbers of long ſharp pointed protuberances called *papillæ*, with which the whole ſubſtance of it is covered. Theſe protuberances are turned towards the throat; ſo that, by their means, the food having once got into the mouth, is not eaſily pulled back. The animals, therefore, ſupply the defect of teeth, by wrapping their tongue round a tuft of graſs, and ſo by preſſing it againſt the upper jaw, keep it ſtretched, and cut it with the teeth of the under jaw; then, without chewing, throw it down into the æſophagus or gullet. * All animals which ruminate muſt have more ſtomachs than one; ſome have two, ſome have three, and our preſent ſubject has no leſs than four. The food is carried directly down into the firſt, which lies upon the left ſide, and is the longeſt of all, and is what is vulgarly called the paunch or great bag. There are upon its internal ſurface a vaſt number of ſmall blunt-pointed proceſſes, by which the whole has a general roughneſs, and the ſurface is extended to ſeveral times the ſize of the paunch itſelf. The food, by the force of its

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* The cavity which conveys the undigeſted aliment to the firſt ſtomach.

muſcular coat and the liquors poured in here, is ſufficiently macerated; after which it is forced up hence by the æſophagus or gullet into the mouth, and there it is made very ſmall by maſtication: this is what is properly called rumination or chewing the cud; for which purpoſe, thoſe teeth called *dentes molares*, or the grinding teeth, which are exceeding well fitted for the purpoſe, inſtead of being covered with a thin cruſt, the enamel on them conſiſts of perpendicular plates, between which the bone is bare, and conſtantly wearing faſter than the enamel, ſo that the tooth remains good to an extreme old age; and by means of theſe teeth, the rumination is carried on for a long time, without any danger of ſpoiling them. After rumination, the food is ſent down by the gullet into the ſecond ſtomach; for the æſophagus opens indifferently into both. It ends exactly where the two ſtomachs meet; and there is a ſmooth gutter, with riſing edges, which leads into the ſecond ſtomach, from thence to the third, and alſo to the fourth: however, the creature has a power to direct it into which it will. Some tell us that the drink goes into the ſecond; but that might be eaſily determined by making them drink before ſlaughter. The ſecond ſtomach, which is the anterior and ſmaller, is called the honey-comb, from its conſiſting of a great number of cells on its internal ſurface, of a regular pentagonal figure like unto a honey-comb. Here the food is farther macerated,

cerated, from which it is carried forward into the third, which is generally called and known by the manyplies or manyfolds, becauſe the internal ſurface riſes up into a great many folds or plies, according to the length of this ſtomach. Some of theſe folds are farther produced into the ſtomach than others; *i. e.* firſt two long ones on each ſide, and within theſe, two ſhorter in the middle, &c. There are numberleſs glandular grains, like millet-ſeeds, diſperſed all over the folds, from which ſome authors call this ſtomach the *millet*. From this it paſſes into the fourth, commonly called the maw, being the place where the chyle is formed, and from which the food deſcends immediately into the inteſtines; the ſame which, in the calf, is uſed by the dairy women for curdling milk when it is properly prepared, &c. The guts of theſe creatures are of a conſiderable length in proportion to the bulk of their body; the digeſtion of this animal, as well as ſome others, is accompanied with a peculiar kind of action called rumination; the intention of which ſeems to be, that the food may be ſufficiently broke or ground into ſmall particles, and thus more fully acted upon by the ſtomach, for it is not obſerved that a calf ruminates as long as it is fed only upon milk, though the action takes place as ſoon as it begins to eat ſolid food. But it is to be obſerved, that as long as a calf feeds only upon milk, the food deſcends immediately into the fourth ſtomach. The rumination does not take place till after the animal has eaten a pretty large quantity: after which it lies down, if it can conveniently, and begins to chew; though the operation will take place in a ſtanding poſture, if it cannot lye down.

In this action a ball is obſerved to riſe from the ſtomach with great velocity, almoſt as if ſhot from a muſket. This ball the animal chews very accurately, and then ſwallows it again, and ſo on alternately, till all the food it has eaten has undergone this operation. This is eaſily explained from the ſtructure of the æſophagus, which has one ſet of fibres calculated for bringing up the graſs, and another for bringing it down again.

By means of rumination, the cow extracts a much larger portion of nouriſhment from her food, than thoſe animals which do not ruminate; and hence ſhe is contented with much worſe fare, and ſmaller quantities of it, than a horſe; hence alſo the dung of cows, being much more exhauſted of its fine parts than horſe-dung, proves much inferior to it as a manure. *Comparative Anatomy by Dr. Mures, &c.*

Circulation may be ſaid to begin and end with life, from its being one of the firſt functions of all animated nature, and when it ceaſes, life has taken a laſt farewel of that body in which it was the baſis. The organs employed in it, are the heart, the arteries, or blood-veſſels, which carry the blood from the heart into the whole ſyſtem, and the veins. The heart is a muſcle of a conical form, with two cavities in its bottom, which are called ventricles. Immediately under it, are two bags called auricles, or the two ears of the heart; out of the left ventricle there proceeds a large artery, which is called the aorta, and diſtributes the blood through the whole body. Another artery, equally large, likewiſe proceeds from the right ventricle: this is called the pulmonary artery, becauſe it ſpreads in ramifications through the lungs. The right auricle receives the blood, as it returns from its circulation through the whole body, by the two vena cava, or the large vein. This fluid paſſes from the right auricle into the right ventricle; from the right ventricle it iſſues into the lungs through the pulmonary artery. Through the pulmonary veins it proceeds into the left auricle: it paſſes thence into the left ventricle by the aorta through the whole body, &c. *Fourcroy's Natural Hiſtory.*

Nutrition is the conſequence of digeſtion and circulation. As the ſolids are always ſuffering a loſs by the motions which they carry on, they need to be repaired; and this reparation they receive from the function of nutrition. In the firſt period of the life of the animal, they grow larger, and the animal increaſes in ſize. The cellular tiſſue is uſually as the organ of this function, and the lymph as the humour from which the ſolids derive that reparation which they need: It appears, however, that each is nouriſhed with a matter peculiar to itſelf, which it ſeparates, either from the blood or from the lymph, or from ſome other fluid. The muſcles, for inſtance, are nouriſhed by a fibrous matter which they ſeparate from the blood;* the bones extract from it a calcareous phoſphoric ſalt, and a lymphatic matter: the pure lymph dries into plates, in the cellular texture: concreſcible oil depoſited in theſe produces the fat. Every different part of the body is nouriſhed in a way peculiar to itſelf: the nutrition of each of theſe parts is truly a ſecretion, which is a function that ſeparates from the blood in different organs, juices deſigned for particular purpoſes, ſuch as the bile in the liver, &c. This function is one of the moſt general among animals. *Fourcroy's Natural Hiſtory.*

Respiration, conſidered as it takes place in all animals, is a function which brings the blood into contact with the ſtate of the atmoſphere, or fluid in which they live. For this purpoſe man and quadrupeds are poſſeſſed of an organ called the lungs; it is a collection of hollow veſicles which are nothing more than ramifications of a membranous and cartilaginous duct called the trachial artery—and of the blood veſſels with their ramifications, from a great many arcolœ on the ſurface of the pulmonary veſſels. Theſe veſicles and veſſels are ſupported by a looſe and ſpongy cellular texture, which forms the parenchema of the lungs. The air when inhaled diſtends theſe veſicles. *Fourcroy's Natural Hiſtory.*

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* The red part of which is called the craſſamentum, and by that eminent phyſician, Bordeu, is conſidered as a ſort of running fleſh.

The moſt important, the moſt compound, and the moſt impenetrable of the recrementitial humours is the blood: we treat of it firſt, becauſe the greateſt phyſicians maintain it to be the ſource and centure of all the animal fluids. The blood is a fluid of a beautiful red colour; of a fat, unctuous, and, as it were, a ſaponaceous conſiſtency; of a taſte ſomewhat ſaline, but almoſt inſipid; and contained, in the heart, arteries and veins. This fluid is differently modified, by the different parts through which it flows: for inſtance, in the arteries and in the veins~~, in~~ the breaſt and in the region of the liver, in the muſcles and in the glands, &c. it is not the ſame. The blood of the ox is always hotter than the medium he inhabits, and, for that reaſon, he is called one of the hot-blooded animals; it is dif-

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ferently modified, in the different ſtates of health and condition in the animal, which may be inſtanced in a ſtate of inflammation in the lungs, ſtomach, or inteſtinal canals.

There is another ſingular property belonging to the blood. While hot and in motion it continues fluid and red: when cool and at reſt it becomes a ſolid maſs, which by degrees ſeparates into two parts; the one of a dark red colour, ſwimming at the top, and its conſiſtency concrete, till ſuch time as it ſuffers an alteration; this is called the clot, cruor, or craſſamentum; the other is of a greeniſh yellow colour, and occupies the bottom of the veſſel, and is called the ſerum or lymph. Bucquet is of opinion, that the ſerum or lymph poſſeſſes all the characteriſtic properties of milk. This opinion has much the appearance of reaſon in its behalf, from a fact generally known amongſt cattle keepers, that blood taken from a cow, when ſhe gives milk, never fails to take her milk from her, to an almoſt incredible degree; and from thence, we may infer that there is a near connection and correſpondence between the two fluids, and that the lactiferous or milk veſſels give up part of their portion to the blood, that great preſerver of the ſyſtem. Boerhaave, is alſo of opinion, that milk may, in the animal ſyſtem, be converted into blood.

The many different diſorders which this ſpecies of animals is ſubject to, originates from various circumſtances. The change of air is found to have very ſenſible effects in general, but more eſpecially, when the ſyſtem or habit of the animal undergoes any material change in itſelf, ſuch as turning to or from graſs, before and after calving, loſing blood, &c. The change of weather is felt more in the Northern mountainous counties, than in thoſe more Southerly and level: and from hence, ariſes more internal inflammatory complaints than in other ſituations. The uſe of neutral ſalts, and letting blood, is the moſt prudent method of prevention, or cure of theſe diſorders in general. In lower countries, cattle are more ſubject to lameneſs in the limbs; ſuch as the ſoft and horned fouls, or the gout, fog-ſickneſs, or over-eating, &c. than in ſituations where it is more expoſed to bleak winds and ſtorms. In the courſe of cattle-dealing, they are very ſubject to changes of fodder or graſs, which is a never-failing incentive to diſorders of one kind or other, without the greateſt care. Animal nutrition depends as much upon fluids as ſolids, and as water is the only one they are uſed to take, it is requiſite that it be in its pureſt and moſt wholeſome ſtate. Water, ſays a learned phyſician, thins the fluids, and prepares them for the immediate action of nutriment or medicine; it alſo cleanſes and waſhes away any glutinated matter which might hinder the progreſs of either, &c.

Calcareous ſalts are moſt frequently mixed with water, and communicate ſome diſagreeable, and ſometimes even noxious qualities to well and river-waters; theſe are ſometimes alſo found to contain a portion of the carbonic acid, of clay, of iron, and of the extracts of vegetables altered by putrefaction; all ſuch waters are unwholeſome; thoſe vitiated with former mixtures are called crude, hard waters: they have an inſipid taſte, are very heavy upon the ſtomach, and unfavourable to digeſtion; and, being likewiſe often purgative, the uſe of them is not without danger. It is, therefore, an object of conſiderable importance to diſtinguiſh the quality of water; to diſcover whether it be impregnated with any bodies which may communicate to it noxious properties, and to adopt means for purifying it from ſuch a mixture. Good wholeſome water is generally diſtinguiſhed by the following characteriſtics.

It is very clear and limpid; no extraneous body alters its tranſparency; it has no kind of ſmell; it has a lively, freſh, and almoſt pungent taſte; it boils readily, and without loſing its tranſparency; it entirely diſſolves ſoap, in ſuch a manner as to produce no homogeneous fluid, without clouds or lumps; it boils leguminous vegetables without hardening them, if tried by an addition of thoſe liquors that are named *reagents*, ſuch as alkalis, and ſolutions with mercury and ſilver with nitre; it looſes neither its purity nor tranſparency; or at leaſt, if it ſuffers any change of that kind, it is almoſt imperceptible. Laſtly, it paſſes eaſily through the ſtomach and inteſtines, and is favourable to digeſtion; ſpring or river-water, which filtrates or flows through ſand is in continual motion, and is not polluted with the putrefaction of animal or vegetable ſubſtances, is found to poſſeſs all theſe properties: but filth muſt not be conveyed into it by ſewers; the channel muſt not be filled, ſo as to divert or ſlacken its courſe; nor muſt hemp be ſteeped, or foul linens waſhed in it, &c. On the contrary, water which ſtagnates in ſubterraneous cavities, which iſſues from a calcarous or gypſeous ſoil without any current, that is over-grown with plants, or crawls with inſects, which is very ſhallow with a ſoft muddy bottom, conſiſting of putrid vegetables; all ſuch water exhibits quite different qualities. Its taſte is inſipid or even nauſeous; it has the ſmell of a mouldy or putrid ſubſtance; it is often green or yellowiſh; green or brown flakes of matter, the remains of putrid vegetable ſubſtances, are ſeen ſwimming on it; it turns vegetable blues to green; it becomes dark and muddy when boiled, forms clouds with ſoap, and hardens all kinds of pulſe; the *reagents* cauſe it to give precipitants, in greater or leſs abundance; it oppreſſes the ſtomach, remains long upon it, and retards digeſtion. Several means are uſed to correct theſe bad qualities; which have been adopted entirely from the conſideration of its phyſical and chymical properties.

STAGNANT waters are put in motion by cutting out for them a ſloping channel, expoſing them to the action of mills, cauſing them to riſe in ſpouts through the air, or to tumble down in caſcades; by theſe means the putrid gas and ſpiritous rector are cauſed to evaporate, extraneous matters are collected and depoſited in the bottom, and a conſiderable quantity of air is attracted into combination with the water.

IT will be admitted, by every perſon of rational diſcernment, that it is the juicy or ſucculent part of alimentary ſubſtance that tends to invigorate and ſupport the animal ſyſtem; but the juices of ſolids alone are not ſufficient for the circulatory motions of the animal œconomy, without the aſſiſtance of conſiderable additions in fluids. Black-cattle are found to require more than many other quadrupeds of a domeſtic kind.

WATER is accounted by the learned, to be the firſt diſſolvent in nature, and when pure the moſt congenial to the primitive ſtate of habit in all animated nature; therefore, it is reaſonable to ſuppoſe, that when the aliment is wholeſome, and adminiſtered in portions ſuitable to the wants and nature of the animal, there is the greateſt reaſon to expect a continuance of health; but, on the contrary, when the ſolid food is wanting in nutrition, or that which it affords tainted and nauſeous, the water crude and indigeſtible, the natural progreſs of growth and health is impeded, which throws the habit into diſorder, and expoſes it unto ſuch ills as ſeaſons and circumſtances deal out to the different frames or ſyſtems of animals, in their various ſituations in life, &c.

It may not be unneceſſary to inform the reader that, in the country where Mr. Rowlin practiſed, the cattle were not of the largeſt kind, nor yet of the ſmalleſt; upon an average, a well-grown ox or heifer will weigh about forty ſtone the carcaſe without the offal—therefore, where the cattle are conſiderably larger, the doſes of medicine ſhould be augmented, in their ſeveral proportions, according to the ſize of the patient, or repeated in the courſe of a few hours; if the animal be much leſs, a ſmaller doſe might anſwer the purpoſe equally as well as that preſcribed in the work; but as none of the medicines are dangerous in their effects, any abridgment might not be favourable to its operation on the ſyſtem, though much depends on the conſtitution of the animal, or the phyſical quality of medicine.

N. B. It is abſolutely neceſſary to be careful, in the purchaſing of drugs, and to deal with no perſon but thoſe whoſe characters are unimpeachable, and will warrant a merited reliance on their integrity and honour. Many people are led into errors, by a mercenary idea of ſaving, which may eaſily terminate in the loſs of the patient.

OF

WARBLES, OR THE OX-FLY,

FROM

CHAMBERS's ENCYCLOPEDIA.

THE ox-fly is a ſpecies of two winged fly, bred from a fly-worm, hatched under the ſkin of oxen; from the egg of the parent fly lodged there. The female of this fly makes a number of ſmall wounds in the backs of the horned cattle, and in each of theſe depoſites an egg, which is afterwards hatched by the warmth of the creature's body. As ſoon as hatched, the young worm finds itſelf in a very convenient lodging, and in a way to be furniſhed with all the neceſſaries of life. The places where they lie are eaſily diſcovered; as there is ever a tumour about them, like that on the forehead of children from falls; within this, and under the thick ſkin of the creature, is the worm lodged; the country people know very well that a worm is contained within each of theſe tumours, but they are ſomething miſtaken as to the fly it comes from; the gad-fly

being

being the moſt buſy about theſe creatures, and giving them moſt vexation, they naturally enough have ſuppoſed this the produce of the egg of that fly; but this is an erroneous opinion. Mr. Valliſnieri ſeems the firſt who underſtood the true ſtate of the caſe, and he has given a very full and excellent account of it. Theſe worms may properly enough be ſtyled the inhabitants of animal galls, ſince the tumours which contain them are truly analogous to the galls of the oak, and other the like excreſcences.

The hole in theſe tumours is not only uſeful to the animal for a breathing place, but it has another not leſs neceſſary uſe; which is to let out a quantity of abundant matter formed in the tumour, which would, if confined there, occaſion a large abſceſs, and choak and deſtroy the animal.

If theſe worms were endued with the qualities of thoſe of the common fleſh-fly, and had hooks at their head-part to tear and pull the fleſh in pieces, the creature who had thirty or forty of theſe gnawing devourers in its back, preying upon its fleſh at once, would be in a very miſerable ſtate: but this is by no means the caſe, the creatures having no organs to tear its fleſh with, they only live on the matter found in the abſceſs, and give the creature no great pain; being only like ſo many tents kept in a wound neceſſary to be preſerved open, or ſo many peas in iſſues.

The worms may, at any time, be diſlodged from theſe tumours by a moderate preſſure, and made to come out at the hole of the tumour. This, though it appear conſiderably too little, yet anſwers the purpoſe; as the body of the worm well enough bears preſſure, and it is only neceſſary, in order to get them out whole, to renew the force upon the tumour, for the puſhing out every ſeparate ring of its body, as ſoon as it is out of its habitation, where it crawls ſlowly about till it finds a place where it may reſt, to go through its ſeveral changes, under a ſtone or in any quiet place.

Stags, and ſome other animals, are ſubject to theſe worms in the ſame manner as oxen, and the ſeveral ſtages they go through in the tumours on theſe animals, are the ſame with thoſe of the ox.

When they have fixed upon a place to reſt in, for their changes, they looſe all motion, and their ſkin becomes black and hard, and makes a ſhell for their remaining in, through their ſucceeding changes.

When the time of the egreſs of the fly is come, it appears a two-winged one indeed; but ſo extremely like the humble bees of a middling ſize, that it is not eaſily to be diſtinguiſhed for what it is: One humble bee cannot be more like another than theſe flies are to that ſpecies of them; their bodies are as ſhort, all of the ſame colours, and are even more hairy.

This fly, cloſely examined, appears to be of the ſecond claſs, and to have a mouth without teeth or lips, and its mouth very ſmall; the atennæ are ſhort, rounded at their ends, and of a gloſſy hue; the reticular eyes are of a deep cheſnut colour.

The female has, in the under and hinder part of her body, a cylindric tube, which ſhe can thruſt out at pleaſure, and which is the inſtrument with which ſhe pierces the ſkin of the animal to depoſite her egg. *Reumur Hiſt. Inſect. Vol.* IV. *page* 503, *ſeq.* 537.

ROWLIN'S

COMPLETE

COW-DOCTOR.

POISONS

ARE of different deſcriptions, and liable to be caught at any ſeaſon, by all ranks and ages of cattle. The ſtrongeſt infection they are much expoſed to is, the leaves of yew-tree, which very often have a ſerious effect upon the animal; not only from the nature of its poiſonous qualities, but from the large quantity taken into the ſtomach before any diſcovery is made, or aſſiſtance procured; which, in a very ſhort period of time, contaminates and diſorders the ſyſtem to a degree that no known antidote can counteract its force.

SYMPTOMS,

IN theſe caſes, are immediate and violent fermentation in the ſtomach and bowels, cauſing a quick diſtention and ſwelling, in the whole inteſtinal canal, accompanied with ſevere ſickneſs and groaning; but the ſymptoms and ſeverity of the attack totally depend on the great or ſmall portion they have ſwallowed, and on this alſo reſts the hopes of ſucceſs. When it is ſmall, the fermentation and ſwelling act in due proportion, both in time and ſeverity, which is the only true ſymptom of the quantity they may have taken.

REMEDY.

IT is almoſt a general maxim, that whenever the the diſorder is quick and violent, the remedy requires to be ſpeedy and powerful, to check the progreſs of its furious attack; for, when relief is with-held a few moments, it may render every effort unſeaſonable. Therefore, it will be moſt neceſſary to eaſe the ſtomach and bowels of the nauſeous air, cauſed by fermentation, which may be eaſily effected by means of the elaſtic tube, invented by the celebrated Dr. Munro, and deſcribed in this treatiſe, on that diſorder called *fog-ſickneſs;* but, in caſe no ſuch inſtrument can be had in time, recourſe may be had to ſome of the other vulgar methods, as related in the diſeaſe above referred to. Alſo, as ſoon as poſſible, let blood at the uſual vein in the neck, which will greatly relieve its difficulty and diſtreſs in breathing; and the ſooner this operation is performed the more likely it is to be of ſervice.

Some good effects have been derived from medicine, but it often happens that the animal might have terminated its exiſtence before it could be procured. A timely application of the following would be of conſiderable advantage in ſpeedily unloading the bowels, of a great part of their excrementitious burthen, and opening the paſſages of the inteſtines, when a conſiderable part of the air or wind which filled the bowels would eſcape, and give an interval of eaſe to the patient.

MEDICINE.

Take	Epſom Salts,	3 ounces
	Glauber's Salts,	2 ounces
	Salt-petre,	2 ounces.

Boil theſe in two quarts of water, and then add

Oil of Olives,	1 pint
Oil of Sweet Almonds,	1 gill.

When the former is boiled and taken off the fire, to be ſtirred well together and given, when blood warm, for one doſe.

This has ſometimes proved a perfect remedy, when timeouſly adminiſtered, and when only a ſmall portion of the poiſonous ſubſtance had been taken; but when, on the contrary, it will be found not to have the deſired effect, and the ſtate of the diſeaſe requires a more powerful mode of treatment; it muſt be effected by the evacuations previouſly preſcribed.

When the beaſt has got unloaded of the diſagreeable fermentation, the above medicine ought to be applied, to cleanſe the inteſtines of all nauſeous and infectious impurities, the conſequence of ſuch unfortunate accidents.

THERE are alſo two ſmall inſects, of the ſpider kind, which are poiſonous, and which cattle are ſubject to get in the field or houſe. The one is of a remarkable fine ſcarlet red colour, and very ſmall, generally known by the name of *twing:* and, when caught into the ſtomach of a beaſt, it cauſes a quick fermentation and ſwelling, though ſcarce ever ſo rapid as that of the yew, when taken in large portions. The ſame means muſt be uſed as in the foregoing, or as near as circumſtances will admit.

THE medicines above preſcribed, with early blood-letting, have ſometimes been of themſelves a remedy; but in all caſes where the ſtomach is preternaturally extended with fermented unwholeſome air, which is the occaſion of ſickneſs, it ought to be diſlodged as ſoon as poſſible, and it may be readily effected by the elaſtic tube mentioned above.

THE other poiſonous inſect is black, and ſmaller than the former, but is ſuppoſed to emit a ſtronger infection than that of the red colour. It has a greater tendency to ſwelling the fleſh of the animal than either of the foregoing, on which account it is ſometimes miſtaken for the *hawkes:* but they may be known from each other, by the hawkes always being much ſwelled about the eyes, whereas in this it is never to be found there.

The ſame treatment, as in the others, may be uſed; as the cauſes are ſo nearly ſimilar, the effects have a ſtrong likeneſs. Take care the beaſt get no water, until the medicine have had its proper effect, in all the above caſes related under poiſon.

FOG-SICKNESS

IS a very ſudden and violent diſorder, ariſing from immediate cauſes; and requires a ſpeedy relief, or diſſolution ſoon terminates the animal's exiſtence. And, whenever it takes place, the proprietor, or his dependents, merit the blame nineteen times in twenty. It is a truth, almoſt generally known, amongſt every claſs of people who have the management of cattle, that ſome graſſes are much richer, and ſome poorer than others; from whence the difference of effects may be traced, extremes avoided, and conſequently many diſeaſes prevented, and eſpecially this under our preſent conſideration. Every farmer, or grazier of whatever extent, frequently has changes to make from one paſture to another, either for his pleaſure or neceſſity; and when properly adhered to, and the reſult duly conſidered, they will be found to contribute much to the advantage of the owner; and the herd always ſeems elevated with the variety, but it will be ſtrictly neceſſary, to conſider well the difference of the paſture you take from, and put into: for, if there be a great diſſimilarity, diſeaſe may be the conſequence ſooner or later; when the change is from rich to poor, the diſorders are generally of the languid or flatulent kind; but if, from poor to rich, they are more violent and inflammatory: therefore, when cattle are put into ſuch rich graſs as above alluded to, they ſhould not be put in when hungry, but when their appetite would very ſoon be ſatiated, and the quantity they would be able to take, could not have juices ſufficient to cauſe ſuch a dangerous fermentation, or they ſhould only be ſuffered to graze in it a very ſhort time at once, that the ſtomach may be habituated to it by degrees.

Fog-sickness, or over-eating, is moſtly occaſioned by putting cattle into freſh clover, vetches or rich fog, after being partly abridged before; and the agreeable change makes them eat more greedily than they would have done, or perhaps could do, in their former ſituation; and from thence the ſtomach is loaded with a ſuperabundance of rich and groſs aliment, which cauſes a quick fermentation, and diſtention of the firſt ventricle, or paunch, that the upper part of the ſtomach is cloſed, and the function of ruminating or chewing the cud, has from its force ceaſed to perform in its uſual way. This ſwelling communicates itſelf into the inteſtines, or guts which greatly augments the creature's ſickneſs.

THE means, commonly uſed for their relief, ſeem to be more the reſult of abſolute neceſſity and ſudden thought, than any premeditated invention.— Such as attempting to draw the tongue to one ſide, and introduce the hand into the gullet and removing that part of the food which ſtops the paſſage— alſo ſtabbing into the bag, or paunch, in the thin part between the hindmoſt rib and the huckle bone, with a penknife or ſome ſharp and ſmall inſtrument, and introducing into the wound, the barrel of a quill or ſome other ſmall tube, that will ſuffer the nauſeous air to eſcape, which will immediately give eaſe to the beaſt; but the conſequences of the wound may be as ſerious as the diſorder itſelf.— Alſo putting a rope down the throat of the animal, and by means of working it to and fro, it cauſes an evacuation of the air, and effects a cure.—

MEDICINE is ſcarcely ever of any particular ſervice in this diſorder, except in the former part of its progreſs, when it can be timeouſly adminiſtered, it will relieve the inteſtines from their load of excrements, and expel a portion of wind or air, which always takes poſſeſſion of thoſe cavities, to a greater or leſs degree; but, in many ſituations, the patient may be dead, before the meſſenger have arrived at the apothecaries; therefore it can only be of ſervice in very few circumſtances.

MEDICINE.

Take	Cumming Seeds,	2 ounces
	Fœnugreek,	1 ounce
	Myrrh,	1 ounce
	Syrup of Buck-thorn,	3 ounces
	Sallad Oil,	1 gill
	Lintſeed Oil,	1 gill.

The three firſt articles to be boiled in three pints of water, then add the ſyrup and oil; ſtir them well up together, and give them when blood warm.—This medicine is not particularly recommended for being a cure for the diſorder, but has been known to be of ſervice.

The celebrated Dr. Munro, Profeſſor of Anatomy in Edinburgh, invented an elaſtic tube, for the ſole purpoſe of remedying this violent and dangerous diſeaſe, with the greateſt ſafety, eaſe and diſpatch, which he communicated to the editor of this treatiſe, in May 1793; but, from its not being generally known, the advantages which would inevitably ariſe from it, are loſt to the greateſt part of the community, to whom it might be of ſervice, which is perfectly contrary to the wiſh of the learned and philanthropic Profeſſor; and as an account of it never appeared publicly, but in one Edinburgh newſpaper, it will, by the Doctors permiſſion, be inſerted in this work from the copy.

DISEASED CATTLE.

An account of an eaſy, ſafe and effectual method of ſaving cattle which are ſwelled, and in danger of dying, from having eaten clover or other graſſes.

AS many black-cattle are loſt yearly, in conſequence of the ſwelling, occaſioned by their having eaten exceſſively of red clover, or other ſoft and ſucculent graſs, a correſpondent wiſhes to render the following obſervations, which for many years paſt have been mentioned by Dr. Munro, in the courſe of his Anatomical Lectures, more generally uſeful to the public, by communicating them through the channel of your paper.

Dr. Munro begins with obſerving, that the ſwelling of the belly is owing to the diſtention of the ſtomachs, and particularly of their firſt ſtomach, by fixed air, which is diſengaged from the tender and ſucculent graſs, in conſequence of its quick ſolution and violent fermentation; while the diſcharge of it upwards, through the gullet ſeems to be prevented by a ſpaſm or muſcular contraction of the upper orifice of the ſtomach. He next remarks, that the dangerous and often fatal effects, which follow the diſtention, are not owing to the fixed air, nor to the juices of the fermented graſs, acting as poiſonous upon the ſtomach, as a moderate quantity of either produces no bad effects, and that the repeated experience of the grazier has ſhewn, that many cattle are immediately relieved and preſerved by ſtabbing them with a knife or trochar, and thus allowing the air to eſcape. He therefore concludes that cattle may, with certainty, be ſaved, if the air be drawn off in due time, without injuring the ſtomach or other bowels, and he affirms that this may be done with great eaſe, by paſſing a flexible tube from the mouth down the gullet into the ſtomach.

The tube is to be compoſed of iron wire, as large as a common ſtocking wire, or about one ſixteenth part of an inch diameter, twiſted round a ſmooth iron rod three eighths of an inch diameter, in order to give it the cylindrical form, and after taking it off the rod, it is to be covered with ſmooth leather.

To the end of the tube which is intended to be paſſed into the ſtomach, a braſs pipe, two inches long, of the ſame ſize as the tube, and pierced with a number of large holes, is to be firmly connected.

To prevent the tube from bending too much, within the mouth or gullet; in time of paſſing it down into the ſtomach, an iron wire, one eighth of an inch diameter, and of the ſame length as the tube, is put within it, which is to be withdrawn when the tube has entered the ſtomach.

He has found that the ſpace from the fore-teeth of the under jaw to the bottom of the firſt ſtomach of a large ox, meaſures about ſix feet, and he has paſſed ſuch a tube, five feet and nine inches long, into the gullet and ſtomach of a living ox. The tube ought therefore to be ſix feet long, that we may be ſure of its anſwering in the largeſt oxen.*

After the tube is paſſed into the ſtomach, it may be allowed to remain for any length of time; as, when it is preſſed to one ſide of the throat, it does not interrupt the breathing of the animal. The greater part of the elaſtic and condenſed fixed air will be readily diſcharged through the tube; and if it be thought neceſſary, the remainder of it, or the ſuperfluous drink may be ſucked out, by a bel-

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* One of thoſe tubes will coſt about eight ſhillings.

lows fixed to the upper end of the tube, with a couple of valves, one at its muzzle, and the other at the ſide of it, ſo diſpoſed as to allow the air to paſs in the direction from the ſtomach upwards.

It is likewiſe evident, that ardent ſpirits, or any other fluid fit for checking fermentation, or which may be uſeful in other reſpects, can be injected through ſuch a tube into the ſtomach.

By means of ſuch a tube, the air is not only more certainly diſcharged than by ſtabbing the animal; but the danger is avoided which the ſtabbing occaſions: not ſo much by the irritation which the wound creates, as that the air, and the other contents of the ſtomach, getting into the cavity of the belly, between the containing parts and the bowels, excite ſuch a degree of inflammation as frequently proves fatal to the animal.

To ſhew further what ſucceſs may be expected from ſuch a method, Dr. Munro has allowed me to publiſh the following copy of an anonymous letter which he received from one of his ſtudents, thirteen years ago.

"To Dr. Munro.

"Sir,

"HAVING heard what you mentioned the "other day, upon the ſubject of cattle being prodi"giouſly ſwelled, after eating large quantities of "young clover, occaſioned by the fixed air getting "free, and your propoſing a tube to be introduced "through the pharynx, or throat, into the ſtomach "to give it vent, I was fully convinced it would be "attended with very good effects.

"My grandfather, being a conſiderable grazier "in Norfolk, has his cattle ſometimes affected with "this complaint, and he always frees them from "it, by forcing a large ſtiff cart rope into the ſto"mach, pulling it up and down till the air eſcapes, "and the beaſt is immediately cured, this is the "common practice of the people of that country.

Edinburgh, *April* 29*th*, 1779.

"A Student."

It is much to be wiſhed, that gentlemen and farmers, who make trial of the above method, would publiſh an account of their ſucceſs, or ſend it to Dr. Munro.

This elaſtic tube has been found of infinite ſervice, in ſaving the lives of ſheep when attacked by a peculiar ſwelling, or diſorder, commonly called and known by the name of *ſought*, or *brake-ſought*. It moſt commonly ſeizes them when under the name of hogs, about the autumn or winter; it much reſembles the fog-ſickneſs, or poiſonous diſorders, and by uſing a tube, made proportionate to the ſize of the animal, and uſed in the ſame manner as directed, by the learned Doctor in the Species of Black-cattle, many lives have been preſerved, &c.

HAWKES or HOCKS

HAS in all probability taken its name from the diſorder called hawkes or haws, which is ſeated near the eyes of horſes, as the earlier ſymptoms have ſome ſimilarity to that diſeaſe in its firſt attack; yet there is not the leaſt affinity between them but the name. The diſorder at preſent under conſideration, chiefly originates from an overflow of blood in the veſſels, and this overflow is often occaſioned by a ſudden change of living; as when, in the winter ſeaſon, the food is dry, and often given in ſmall quantities, and affords little nutriment; in conſequence of which the veſſels, containing thoſe fluids that immediately come from the aliment, are contracted and leſſened, from a conſtant habituation of an inſufficiency of food; or that which they get not having nutriment in it according to its bulk. This abridgement is doing injuſtice to the ſyſtem, by depriving it of a requiſite portion of vegetable juices, to ſupply the blood and keep up the due circulation, and give aid to the many other veſſels that are totally dependent thereon. When this is the caſe, for a conſiderable length of time, nature is preparing the ſyſtem to agree with thoſe ſcanty diſtributions, by making the moſt regular and progreſſive ſteps towards a proportionate medium, between the animal and the meaſure of its ſuſtenance. This mode of treatment is keeping the animal alive indeed, but is preparing it for very ſevere trials, when the ſeaſon begins to provide more plentifully for that part of the brute creation, whoſe lot it is to browſe on the more ſucculent part of herbage. Now when the animal begins to taſte the ſweets and perfections of nature without limits, it loſeth no opportunity to partake of her bounties, until nature is ſatisfied—then—ſhe muſt begin to exert her efforts, directly contrary to her former endeavours, by expanding every part of the body containing the fluids of circulation or growth; but the richneſs of their aliment increaſeth the blood, more rapidly than nature's laws can provide for its reception, in ſo ſhort time, after ſuch a long and continued ſtate of want and abridgement of the common neceſſaries of life. At this time the diſorder generally makes its attack, when the veſſels contain a ſuperabundance of fluids, which is the occaſion of a ſtoppage in perſpiration, and a ſtagnation of the pulſe; hence ariſes a numbneſs and ſtupefaction in the whole frame, which ſhould be very well rubbed with ſtraw, to help circulation both before and after blood-letting.

External Symptoms of the Disorder.

AS this diſorder is rapid in its progreſs, after making its firſt attack, it is neceſſary to explain its external ſymptoms with the greateſt preciſion poſſible. Theſe are an uneaſineſs and ſwelling about the eyes, and ſometimes about the glandular parts of the throat, which cauſes them to become languid and unwilling to ſtir from the place where they are. The ſwelling next communicates itſelf unto different parts of the body; alſo to the legs and joints, and if it be of a few hours ſtanding it will ſhew itſelf very perceptibly about the barren and udder, and when it reaches theſe parts, the beaſt may be preſumed very much indiſpoſed; the legs are cold and numb, and they will not attempt to lye down, until they get ſome relief. There will, before this time, another ſymptom have made its appearance, before the ſwelling reaches the hind parts to any great degree.

A very large quantity of ſaliva iſſuing from the mouth, and ſometimes, when the ſwelling fixes much about the jaws, the ſaliva is obſtructed from making its proper diſcharge at the mouth and noſtrils; but particular notice ſhould be taken that it be removed, as much as poſſible, from the roots of the tongue, where it cauſes a ſtoppage in caſes of ſevere ſwellings.

REMEDY.

AS the diſorder is entirely an overflow of blood, when this overflow is leſſened, the diſeaſe will abate, but not till then. All medicine, in this caſe, is entirely void of any good purpoſe, until bleeding be performed, which ought to be done as ſpeedy as poſſible, ſo ſoon as any ſymptoms warranted the diſorder, as deſcribed above; but ſhould no inſtrument or perſon be near at the time for bleeding in the neck, a piece might be cut off each ear, with a knife, as a ſmall temporary relief, until more able aſſiſtance could be procured: alſo to give the beaſt, to allay the ſaliva, a couple of eggs broken with a ſmall quantity of ſalt ſtrewed and ſtirred with them, and given to ſwallow; then mix ſalt and water, and waſh the mouth and roots of the tongue well, which will cool and diſperſe the phlegm and ſaliva, that never fails to be an attendant of the diſeaſe.

When bleeding is performed, in this or any other diſorder, it ſhould never be taken away in very large quantities, at the firſt opening of the vein, on account of ſickning the beaſt with loſs of blood, and a too ſevere depreſſion of the pulſation; yet it may be neceſſary that a large quantity of blood, in ſome diſorders, ſhould be taken from the beaſt, but reaſon will not warrant a too great profuſion of it, at any ſingle time, to be drawn from the ſyſtem. There is not one diſeaſe, that this deſcription of horned cattle are incident to, which requires more immediate or larger quantities being taken away than this under our preſent conſideration; but at the ſame time, if moderation be overlooked, and an extreme ſubſtituted in its place; an addition to the diſorder, inſtead of an alleviation of it, may be the conſequence.

The greateſt quantity that it is ever cuſtomary to take from a ſtrong beaſt at once, is from one to two quarts; but two quarts are much better taken away at twice than at once, and let the interval be eight or ten hours in common; except circumſtances abſolutely demand it otherwiſe. As there is no giving any limits or particular inſtructions, reſpecting the quantity to be taken away at any time, on account of ſo many different diſorders in the ſtate of the blood, ſize of the ſubject, or the age and ſituation of the animal; therefore this is entirely left to the judgment of the operator or owner, to form his opinion from occular demonſtration, and the ſymptoms and circumſtances herein deſcribed.

INFLAMMATION OF THE LUNGS.

WHEN any diſorder attacks the creature internally, ſo near the centre of life and motion as the lungs, or any of the neighbouring parts, it bids fair to be ſerious, unleſs nature kindly aſſiſt to throw it off, or the happy effects of art be introduced timeouſly enough to eradicate the ſeeds of diſeaſe, before it be too late for application.

THE diſorder, under our preſent conſideration, is one of that kind which requires a more maſterly judgment and perſeverance, than is often beſtowed on this moſt uſeful part of the creation. The cauſes of this diſeaſe are various, but its effects are the ſame; the ſymptoms may be eaſily diſtinguiſhed with proper attention, and the ſeaſons, when it makes its approach, are various, but more common in the latter part of ſummer than any other period.

IT is occaſioned by ſudden changes in the air, from temperate to exceſſive, either in cold or dry winds, chilling fogs, miſt or dews, all having a very ſenſible effect upon the animal, when the air has been hot for ſometime, and the blood rarified and rendered much thinner and fitter for circulation in a warm and temperate climate. And when it is immediately ſucceeded by a continuance of eaſterly cold and dry winds, or other unſeaſonable extremes, it may be reaſonably ſuppoſed that the animals moſt expoſed to its action will be moſt ſenſibly affected by the influence of its rigidity.

This ſudden change will ſenſibly obſtruct perſpiration, by ſhutting up the pores of the ſkin, and cauſing the blood and other fluids, that circulated in the finer veſſels near the ſurface, to make their eſcape from an element that obſtructs the courſe which nature requires they ſhould perform, and hurry towards the centre of the frame, where they overload thoſe veſſels in the lungs that are now under the neceſſity of containing the fluids, which more properly belonged to their neighbouring veſſels; and if ſome natural, or artificial, relief be not ſoon found to aid the efforts of nature, by removing the means of obſtruction, or by enlivening perſpiration and circulation, that they may perform their proper functions, a diſeaſe is the immediate iſſue, and in all probability, this one under our preſent notice.

Those who have profeſſed a knowledge of the animal œconomy, allow that the ſyſtem is conſtantly throwing off, by perſpiration and reſpiration, a portion of effluvia, or fluid matter, which the nature of the frame requires to keep it in a proper tone and medium; but, when perſpiration is impeded for any conſiderable length of time, the perſpirable matter is carried back into the lungs with the blood, and a thick glutinous phlegm ſettles in that part. And, when reſpiration is not able to throw it off, it ſtops the paſſages, and leſſens the force of circulation. Now, at this juncture, blood-letting would be a perfect cure, by unloading the whole ſyſtem of a temporary ſtagnation, that was taking place from an overflow of blood, which greatly impedes its own circulation, and verges faſt towards the confirmation of ſome diſorder; and, when this opportunity is loſt, bleeding is never of ſo much ſervice at a future period.

Time, and change of circumſtances, may, in all probability, have reſtored the functions to their wonted action, by extending circulation, and leſſening the weight upon the lungs: but it may have ſtill left that coagulated lymph, to be removed by a well-timed effort of medicine, or it may have left the ſeeds of inflammation.

SYMPTOMS

OF this diſorder are, a heavy dull look, and motion; pale and cold about the eyes and noſtrils: alſo, the roots of the horns and legs cold; a difficulty of breathing, attended with a cough or hoofing, accompanied with a large flow of thick phlegm iſſuing from the roots of the tongue.

REMEDY.

TO be bled pretty freely; then take

Flower of Liquorice,	1 ounce
Flower of Sulphur,	1 ounce.

Theſe boil in one quart of water; and, when almoſt cold enough for giving, add

Syrup of Coltsfoot,	2 ounces
Oil of Sweet Almonds,	2 ounces
Balſam of Sulphur,	1 ounce.

Give this for one doſe, after bleeding, and carefully waſhing away all the ſaliva or phlegm from the roots of the tongue and mouth with ſalt and water; and, after an interval of about eight hours, bleeding and the medicine may be repeated again, if there be not a very great change for the better. And be careful to keep the beaſt quiet, with a ſufficiency of good ſweet litter, and a roomy houſe to lye in, and well covered with a cloth to encourage perſpiration; and her legs ſhould be well rubbed, or ſhe ought to have a little exerciſe.

INFLAMMATION IN THE STOMACH

GENERALLY proceeds from food taken into that receptacle, and not thrown back for rumination, or chewing over again (known by the appellation of chewing the cud) after lying a proper time in the ſtomach, for that purpoſe, but ſuffered, either from weakneſs or over-greedy eating, to remain in the paunch, until it undergoes a kind of fermentation and heat, which bring on inflammation in the parts where it is lodged, by obſtructing circulation, and cauſes an unuſual diſtention of that ventricle.

THIS kind of inflammation is more common in winter and ſpring, than in ſummer, (yet the animal is ſubject to a ſimilar kind of diſeaſe in the ſummer ſeaſon) which is known by the name of *findlay* or *mawſick*, which will be treated on by that name, as a ſeparate diſorder requiring different treatment, owing to the great difference between dry food and that of graſs, or other ſucculent herbage.

SYMPTOMS.

THIS diſorder, like many others of the inflammatory kind, is ſlower in its progreſs, and more difficult to baniſh, than ſome whoſe rapidity may be checked by one effort; the ſymptoms are not ſo ſoon or ſo eaſily diſcovered when the ſeat of diſorder is internal. Therefore, it requires a ſtricter and more minute examination to make a timely diſcovery, and adminiſter relief before the approach of danger. When it begins to inflame, it is accompanied with a ſwelling and heat, which make the animal walk with ſtiffneſs and ſeeming fear; alſo, its breath, when ſmelled, is ſtrong and rank; the ſkin, behind its ſhoulders and on the ribs, ſits faſt to the body, and can ſcarce be lifted up with the greateſt exertion, and that on and near the hindmoſt rib and reins, is either unuſually puffed up, or ſits faſt as the former.

Those two obſervations, when duly attended to, will not deceive the inquirer; who will be more informed by laying his hand upon the fore part of the back, preſſing it down, and the beaſt will feel ſenſibly diſtreſſed, as in the deſcription of rottenneſs.

Many valuable obſervations may be made on internal and inflammatory diſeaſes of cattle, by different changes in the ſcent of their breath; but this can only be gained by practice and long experience.

REMEDY.

REMEDY.

BEFORE the medicine be given, let the beaſt have ſome ſoft water, then take

Diapente,	2 ounces
Venice Treacle,	1 ounce
Mithridate,	1 ounce
Myrrh,	1 ounce
White Ginger,	1 ounce
Cream of Tartar,	½ ounce.

Theſe to be boiled in three pints of ſoft water, then add, when taken off the fire,

Sallad Oil,	1 gill
Lintſeed Oil,	1 gill.

To be ſtirred well together, and given for one doſe, when about as warm as their blood. When this doſe is given, if it do not give entire ſatisfaction, it may be repeated, the next day; and be careful to let the animal have water, as much as it will take, and if it ſhould refuſe to drink, a little muſt be horned in about a quarter of an hour before the medicine is given.

It has been objected to, by ſome, who have wiſhed to palm themſelves on the world, with being wiſer than their neighbours, that medicine can be of no advantage in a diſeaſe, whoſe origin and ſeat immediately affect the firſt ſtomach of a ruminant animal; but experience has proved the contrary, which is ſufficient to combat the wild theoriſt, who has got nothing but a jargon of words to eſpouſe his doctrine.

It is an opinion generally received, amongſt anatomiſts, that liquids, whether alimentary or medicinal, never enter the firſt ſtomach or ventricle, but are conducted into the ſecond; from whence a concluſion is drawn, that the powers of medicine cannot benefit the creature, labouring under ſickneſs of this kind.

But it ought to be obſerved, that the diſorder is often a work of ſome time, before it be confirmed; and the creature gradually loſing its appetite and ſtrength, and when ſickneſs is diſcovered, it is a natural ſuggeſtion to inquire for relief. Then, it may be aſked, How muſt relief be obtained, when medicine cannot reach the parts affected? The anſwer will be, That the intention of medicinal application is to rouſe, and put in motion and circulation, ſo much of the internal ſyſtem as is ſuffering from the weakneſs occaſioned by the diſorder in any certain part of the frame: which, without a powerful effort to remove, would gradually decline, and the diſeaſe increaſe, until a final termination became the reſult. The above preſcription will eaſe and unload the bowels, quicken the periſtaltic motion,

tion, and bring to their uſual tone, the lower ſtomachs and inteſtines, which will enable them to perform every due operation of nature; and, when art has invigorated the ſyſtem, by giving ſtrength and motion to the active powers of the frame, ſhe will aſſiſt in throwing off every impediment, that weakneſs or diſorder may give riſe to, and will revive that action of the ſtomach called the antiperiſtaltic motion, or regurgitation of food, which will entirely rout the diſorder, and convert ſickneſs and languor into health.

When the ſymptoms have convinced that this is the diſorder which oppreſſes the beaſt, it will be much ſafer to renew the medicine, than truſt to one doſe; becauſe its qualities are poſſeſſed of ſo many good effects, in reſtoring the functions to their uſual ſtate of action.

INFLAMMATION OF THE LIVER

MAY originate from two different cauſes. The firſt, and moſt common, is in very fat cattle, that are under the neceſſity of being driven to conſiderable diſtances. They are more liable to the diſeaſe when the weather is hot, owing to a certain part of the fat diſſolving by heat, ſo near the centre of the animal, which meets obſtruction in its paſſage through the liver, added to the immediate ſtate of fermentation in the whole body; which together occaſion an inflammation in this, and the neighbouring parts, where a ſwelling and diſtention take place, when their diſtance and delicacy require an early relief, or the diſeaſe will be dangerous.

The ſecond cauſe of this diſorder is from a knock, or other bruiſe, by a hard body on the external part of the frame; ſuch as the horns of another beaſt; the ſtroke of a gate or poſt, meeting them with violence, to bruiſe or ſtop the regular circulation, which will cauſe it to ſwell and inflame, as the former, and produce the ſame ſymptoms.

SYMPTOMS of this DISORDER

ARE a difficulty of breathing, a ſwelling about the ſhorter ribs, and an unuſual diſtention about the barren or womb. They always ſhew ſymptoms of being feveriſh, their urine of a yellowiſh colour, as is found in the jaundice. The difficulty of breathing is occaſioned by the ſwelling of that part of the liver which is diſeaſed, and compreſſing the lungs.

REMEDY.

FIRST let blood plentifully, then boil in three pints of water,

Glauber Salts,	2 ounces
Salt-petre,	2 ounces
Venice Treacle,	1 ounce
White Ginger,	1 ounce
Mithridate,	1 ounce.

Then add, and ſtir well together,

Oil of Sweet Almonds,	1 gill.

And give for one doſe, when as cold as the blood of the animal. The like may be repeated next day.

The diet to be obſerved muſt be bran ſcalded, or malt maſked, and offered or given at intervals, between the firſt doſe of medicine and the ſecond, and after, as the beaſt may ſeem to require.

RECIPE FOR MAKING A COW TAKE BULL.

MANY attempts have been made to make a cow take bull; but if the beaſt be abridged of the common neceſſaries of life, inſomuch that nature cannot prompt her offices, it would be a very great hardſhip to force upon an animal, any greater burthen than that of ſtarvation, which is moſt generally the reaſon of her not coming kind in due ſeaſon.

The beſt recipe, in the world, is to feed them well, and then nature will predominate over the animal's habit, and cauſe it to ſhew ſigns of procreation through the medium of the creature's conſtitutional feelings.

This ought to be the ſtandard, at all times of this animal's treatment, and every due reſpect paid to ſo valuable a creature, for the very great advantages we are continually deriving from it: but people's inconſideration will always lead them into unnatural errors of this kind; ſome have adminiſtered a whole pint of geneva, on the occaſion, and made the beaſt drunk; others have given large portions of cantharides and ſtrong ale, with many other things, far more likely to bring diſorders on the beaſt, than to be of real ſervice.

There may ſometimes be occaſion for a ſmall degree of ſtimulation, when the feelings of the beaſt are rather torpid; but if the creature be not in tolerable condition, it would be highly inadviſeable to attempt any thing of the kind; and, when it is done, it ought to be only as a nouriſhing doſe; for when they do take the bull after receiving the draught, no one can tell whether it is the effects of medicine, or only a confidence in the probability of its good effects.

Take one quart of new milk, of a beaſt that is in kind, if it can be had; or in default of that, one quart of good ale, then add

Anniſeeds,	2 ounces
Bay Berries,	2 ounces
Gentian Root,	1 ounce
Turmeric,	1 ounce
Grains of Paradiſe,	½ ounce
Cantharides,	½ ounce
Venice Treacle,	1 ounce.

Theſe to be boiled, in either liquid, and given for one doſe; and if the cow take the bull ſoon after, there is no doubt but the good effects will be attributed to the power of this preſcription.

MEGRIM, FRENZY, OR SOUGH,

IS a very ſevere diſorder of the inflammatory kind, and always affects ſome part of the head; but moſt particularly the brain, which is commonly found to be the ſeat of the diſeaſe. Its origin and cauſes are expreſsly ſimilar to thoſe deſcribed, in that diſorder, called the hawkes or hocks, and an attempt at any further explanation is perfectly unneceſſary; only that the diſpoſition of parts, at the time when the different veſſels are over-loaded with a ſuper-abundance of blood, yield to its velocity, or ſtagnation, from various circumſtances and reaſons, whoſe intricacy have hitherto met with very few attempts to explain.

SYMPTOMS

OF this ſickneſs or diſorder, are frightful looks; ſtartings and watchings; groaning vehemently, as if violence or ſudden ſtings of pain affected them; ſlow reſpiration; but they ſometimes make very long and powerful fetchings of the breath, and immediately appear as if breathing had, for a time, totally ceaſed: when, on a ſudden, the beaſt will riſe, turn about, and inſtantly lye down again, ſhewing a continued delirium and ſenſeleſsneſs. When the frenzy is high, their eyes look furious, and red; and at other times, they border upon ſtupefaction and languor; and at all times, are attended with fear, dreading every thing they hear or ſee; often quite ungovernable, and ſcarce ever incline to reſt, except when much worſe of the diſeaſe, and turning lethargic; which will take place if neglected. The inceſſant toſſing and ſtraining, with the effects of the diſorder, frequently cauſe their water or urine to be hot and high coloured, but it often changes to a paler colour, and much thinner, before a fit of frenzy or delirium takes place, which is often accompanied with a feveriſh diſpoſition.

REMEDY.

THE firſt and principal object, for the removal of this diſorder is letting blood, and if the beaſt have been any conſiderable time ill, bleeding ſhould be repeated once or twice more, ſo ſoon as circumſtances will warrant. For, on a timely application of this operation, and due repetition of the ſame, hinges the firſt principles of a favourable change in the diſorder; then procure the following medicine, and give it directly after bleeding; alſo, give the beaſt a few horns of good ſoft water, before the medicine, to waſh its mouth, and remove any phlegm or ſaliva. It may be given half an hour before the preſcription, if convenient.

TAKE	Epſom Salts,	3 ounces
	Glauber Salts,	2 ounces
	Powder of Gentian Root,	1 ounce
	Turmeric,	1 ounce
	Syrup of Buckthorn,	3 ounces.

The firſt four articles to be boiled in three pints, or two quarts of ſoft water, and the ſyrup of buckthorn added, when cold enough for giving to the animal, all ſtirred well up together, and carefully horned in.

AFTER the bleeding and medicine are duly adminiſtered, proper care ought to be taken to procure

cure a conveniently large houſe, well littered with dry, clean and ſweet combuſtibles of ſome kind, ſuch as hay, ſtraw, fern, or other things uſed for that purpoſe, as reſt and eaſe are very material requiſites at preſent, if they can by any means be come at to a moderate degree. The houſe, where the beaſt is put, muſt be darkened as much as poſſible; which will greatly relieve the animal from thoſe apprehenſive deluſions, and fear, that are conſtant attendants on this kind of diſtemper. It is alſo neceſſary that a watch be ſet to obſerve the creature, who ſhould be placed where it might be ſilent, and unſuſpected by the beaſt; to prevent its horns getting into the walls or other cavities, where danger may be apprehended. They alſo tumble ſometimes upon their head, and in a ſhort time might be ſuffocated.

After an interval of five or ſix hours, if evident ſigns of recovery have not been evinced, by its becoming leſs diſtracted and fearful, recourſe muſt be had again to the former method of treatment, by bleeding and giving the medicine an hour or two after: alſo recollecting a little water, previous to the medicine, and if the creature ſhew ſymptoms of recovery, bleeding muſt not be diſcontinued; but may be deferred a few hours longer, and if the ſeaſon ſhould be ſevere, the chilneſs ſhould be taken off the water, leſt by giving it too cold, after bloodletting,

letting, it might have ſome bad effect. With a proper attention to the foregoing obſervations, the greateſt hopes of recovery may be entertained, when adminiſtered in due time.

SOMETIMES a ſwelling and inflammation has been known to occur in this diſtemper, about the jaws and different parts of the head, which requires to be ſtrictly examined, at the beginning of the diſeaſe; and, if there be any appearance of roughneſs, or extraordinary diſtention, timely relief ought to be ſought, or it will ſoon contribute much to the ſickneſs of the animal, which may be greatly prevented, by uſing the following linament timeouſly.

TAKE	Syrup of Buckthorn,	2 ounces
	Syrup of Lavender,	1 ounce
	Ointment of Dealthea,	1 ounce.

Mix thoſe ingredients well up together, and anoint the parts affected, and be careful to rub it well upon the ſwelling; alſo above, to prevent its ſpreading and riſing into the head.

As ſoon as the beaſt ſheweth that it is in a fair way towards recovery, it muſt be raiſed, if lying, and rubbed very well with ſtraw or litter that is perfectly dry: this will ſupply the place of exerciſe, as the creature probably may not be in a proper condition to meet the air, after loſing ſo much blood, in the courſe of the illneſs. If the weather be not very warm, the animal ſhould have a cloth thrown over it, to increaſe perſpiration; but if the weather be hot, and the animal reſtleſs, in all probability it will be in a greater fermentation than it ought if it could be prevented.

STAGGERS, VERTIGO, LETHARGY AND DIZZINESS

ARE all of one fraternity, and nearly related to the hawkes, megrim and frenzy; having in general for their origin, changes from a ſtate of poverty to plenty of rich food, in ſo ſhort a ſpace of time, that nature cannot relax the veſſels ſufficiently, for the reception of the blood and other fluids, which, from the ſuper-abundance of aliment, is yielded, at a time, when the animal œconomy is uſing her utmoſt endeavours to coincide with penury and niggardlineſs.

These kind of diſorders ſhew themſelves very differently, from the great variety of circumſtances they meet with, ſuch as conſtitutional habit, whether ſtrong or weak; the ſtate of air and ſituation, after violent exerciſe or heat, and many other diſſimilar cauſes, that it is not to be wondered at, why ſuch a catalogue of names are attached to the diſorder.

As all the fore-mentioned diſeaſes have drawn their ſource from one original principle, the firſt, and moſt neceſſary ſtep required, is to remove the primary foundation of indiſpoſition, which may be done by blood-letting, as its immediate riſe takes place from an overflow of that fluid. Now, if this be done in a ſimple ſtate of the illneſs, it is a perfect remedy; but if the diſeaſe be ſuffered to take its length with the animal, through ignorance or neglect, without any attempt to ſtop its progreſs, many other diſorders ſeize the opportunity of the indiſpoſed ſtate of the creature, to make their ravages as the diſpoſition of parts gives way to the attack: hence ariſe the various names of megrim, frenzy, vertigo, lethargy and dizzineſs, all of which might have been prevented by one ſimple operation, if performed in due time; but on the contrary, it produces in one animal inflammation in the brain, which cauſes a frenzy; in another a ſlight inflammatory affection on the optic nerves and cavities of the eyes, by the preſſure of the overloaded veſſels, this is called ſtaggers, vertigo, or dizzineſs, which might have been as well underſtood by one name only.

The lethargic dozineſs differs ſome little from the others in ſymptoms; but is in reality the ſame diſorder. The brain is oppreſſed with cold phlegmatic humours, which cauſes a dull, heavy and ſtupid dozineſs, and requires a ſmall variation of treatment: during the firſt ſtages of ſickneſs, the blood is more ſtagnant and thick than in the other diſorders, which renders the beaſt leſs furious, the circulation and pulſe are much ſlower, but ſhould be enlivened by letting-blood, and a briſk rubbing all over the body, with ſtraw or ſomething dry; taking care to give a plentiful ſufficiency of litter, and let it be kept warm to encourage perſpiration. It is preſumed that blood is let at the firſt diſcovery of the diſeaſe, and as ſoon after as poſſible, give the following medicine.

Take	Valerian Root,	1 ounce
	Gentian Root, in Powder,	2 ounces
	Virginian Snake Root,	1 ounce.

To be well ſtirred up with treacle, and when given, may be waſhed down with a horn or two of cold water. After this is performed, the beaſt may be bled again, after an interval of about eight hours.

When thoſe methods have been uſed properly, ſometimes the lethargic habit leaves the animal, and it becomes as in a frenzy, which indicates that circulation is reſtoring faſt to its due courſe of action, and probably, it may burſt out into a violent fit of ſweating, which is very favourable; but it ſhould be carefully minded, that rubbing will be the principal object at that juncture: and when the beaſt begins to cool of itſelf, a cloth may be thrown over it, to take up any ſuperfluous matter, which flies off by perſpiration. Bleeding may be renewed at the expiration of twelve hours, if thought neceſſary; but if a heavy ſweat takes place, the next day will be the preferable period, and when the creature is getting better, and is able to ſtand, rub its legs well; which will encourage perſpiration in thoſe parts which, from ſtagnation and want of exerciſe, will be found very numb and cold.

THE medicine may be repeated, if no material change takes place, in the courſe of eight or nine hours.

LOCKED JAW, OR DEAD PALSY,

IS a ſudden ſtagnation and ſtupefaction of the ſyſtem, or a temporary ſtoppage of circulation. It is moſt common in hot climates, and ariſes from a crude ſtate of the blood, which is not of proper conſiſtency for circulation. When the animal is ſeized, the pulſe is ſlow and irregular, perſpiration almoſt entirely ſtopped, and a cold numbneſs of the whole external parts. It frequently fixes in the jaws, which has given it that name; but every part of the body is ſubject to be affected with it more or leſs, and it requires immediate relief, or it is often attended with immediate diſſolution.

The firſt and moſt neceſſary thing to be done is letting blood, and rubbing with cloth or ſtraw the parts moſt affected by the diſeaſe, and all the reſt of the body if poſſible, in order to enliven circulation with conſtant friction and application. By attending cloſely to theſe injunctions, a ſpeedy remedy may be hoped for, and get, as ſoon as opportunity will admit, the following medicine and linament.

MEDICINE.

Take	Venice Treacle,	1 ounce
	Bay Berries,	2 ounces
	Ginger,	1 ounce
	Turpentine,	two-penny-worth
	Sallad Oil,	1 gill.

Mix theſe with good houſehold beer, one quart, ſweetened well with ſoft ſugar: give this for one doſe; but if the jaws be locked, ſo as not to admit the horn, recourſe muſt be had to conſtant rubbing, and if the animal bleed, there is no doubt of the jaws being much relieved.

LINAMENT.

LINAMENT.

Take	Syrup of Scurvy Graſs,	2 ounces
	Syrup of Lavender,	1 ounce
	Ointment of Dealthea,	1 ounce

Mixt up together, and the parts affected anoint with it, and alſo the back; taking care to rub it well in, which will forward the cure in promoting circulation and perſpiration, which could not be effected without particular exertion, and ſhould there be no poſſibility of giving the beaſt its medicine the uſual way, the following clyſter may be given.

Take Two quarts of Smooth Water-Gruel,
Two ounces of Freſh Butter,
Four ounces of Lenitive Electuary,
One ounce of Common Salt.

Mix thoſe together for a clyſter, and when blood-warm, inject it by the aſſiſtance of a clyſter-pipe; and let it remain an hour. This will be found of good effect, in evacuating part of that excrementitious maſs, which is ſo hurtful to cattle that are diſordered.

Medicine, when it can be given with the horn, is much more likely to be of ſervice; but in caſes like this, ſometimes it is rendered impracticable, and muſt be ſubſtituted by the beſt probable means, under circumſtances of neceſſity. As it is one of the moſt particular requiſites of nurſing diſordered cattle, to keep the body gently open, the firſt favourable means ſhould be embraced, that might be likely to be of ſervice.

WARM baths have been frequently uſed, in the foregoing diſorder, but the method adviſed is found much better; on account of the leſs danger of cooling. The warm bath has been generally adminiſtered, by ſoaking blankets, or other woollen cloths, in warm water, and covering the animal, with a view to give motion to perſpiration, which it certainly will; but the danger of neglect in drying the beaſt, as it ought to be, is ſo much to be apprehended, that it is much more adviſeable to purſue the method firſt preſcribed, and proceed to the treatment of the animal in a recovering ſtate.

THE diet of cattle requires to be paid much attention to, when attacked ſeverely as in the above diſeaſe; and more particularly when the jaws are ſeverely affected, as it takes ſome time before it is enabled to perform the uſual offices of chewing and ruminating. They ſhould be fed, for the ſpace of two or three days, with gruel of barley or rye flour, ſeaſoned a little with ſalt, or a maſh of malt to be given twice each day, and if they would take it themſelves it would be much better; but if not, it may be horned in gently. When cattle are ſeized ſuddenly, they moſtly have a heavy load of food upon their firſt ſtomach, which remains there until they can diſcharge part of it, by chewing their cud; and if their ſickneſs be of long ſtanding, and they be not able to perform this function, there is a certainty of another diſorder, and of a very ſerious nature.

INFLAMMATION or maw-ſick, both of which are found very difficult to remove, on account of medicine given in the common way, never entering into that ſtomach; but they muſt be removed by an effort of nature, with proper nurſing and care. No opportunity ought to be loſt, in offering a very ſmall quantity of hay or graſs, by way of tempting them to take a little, and renew their rumination; but if this be not attended with ſucceſs, recourſe may be had to taking a cud from a healthy beaſt, and put into the weaker animal's fartheſt teeth; or a ſubſtitute of ſour leaven and vinegar has been known to anſwer the purpoſe, and prove a ſtimulus to eating and chewing the cud.

BLACK QUARTER

IS one of the moſt remarkable and leaſt known, in this part of the country, of any diſorder that cattle are incident to.

Not fifty years ago, there was no ſuch diſeaſe known in the county of Cumberland; but, ſince that time, it has made conſiderable havock amongſt the cattle of about one or two years of age. It has always been obſerved to attack the beſt, and thoſe that were higheſt in condition, ſcarce ever meddling with the leaner ſort at all; and it is very rarely known, that an aged beaſt is caught with this diſtemper, though it has ſometimes happened.

When it firſt made its appearance in this county, it was towards the Northern ſhore, where it raged for ſome time, and took away a fourth or fifth part of the ſtock, about the age above related, inſomuch that the farmers partly gave up the idea of rearing their own cattle, and rather preferred purchaſing them, when come to maturity, than run a riſk which had ſo frequently been attended with loſs and diſappointment.

It has not the leaſt appearance of being infectious, but rather of the epidemical kind of diſorders; and has no particular ſeaſon of the year, when it makes its appearance, but is rather more general in the latter part of winter and ſpring.

When it firſt viſited the North, its limits were, for a conſiderable ſpace of time, more confined than at preſent. Every enſuing ſeaſon, its circuit was extended a few miles round, and before the year 1777 there had ſcarce an inſtance of it been known amongſt the cattle above the river Darwent; where, for a few years, it made its attack, and ſwept away many of the beſt heifers, of the age above deſcribed, in different parts of the country. It has now become almoſt general, but has conſiderably abated of its violence, where it made its firſt ravages.

This diſorder has met with very few who have attempted to explain its cauſe or origin, and only being at a late period when it made its firſt appearance in the neighbourhood where the author of this treatiſe reſided, he conſequently had not ſufficient opportunities of making the inquiries neceſſary for a full inveſtigation of this malady.

But, from what came under his notice, he has given his opinion on the ſubject. It has been obſerved to make its ſevereſt attacks, where the ſtate of huſbandry and tillage were undergoing the moſt material changes and modes of improvement. The introduction of new graſſes, bearing no congeniality to the ſoil, or ſpeedy improvement of the natural graſs, by different manures and ways of cultivation.

Where there is any emulation in rearing cattle, the young ones are, for the moſt part, fed over plenteouſly with fodder, the produce of ſuch graſſes as may be much too groſs for their young frame, and occaſion this fatal diſeaſe, by overloading the lymphatic, or ſome other veſſels, with a ſuperabundance of juices, from an over-rich aliment, that may give riſe to this ſudden and alarming diſeaſe.

The ſtate of the air at different times, and the different condition and habit of animals, from aliment or various other cauſes, may be productive of diſorders, which the preſent ſtate of knowledge and obſervation can give no better account of, than that they exiſt; therefore, it may be worth notice, that this deſcription of cattle ought to be reared with the greateſt care and attention: neither to abridge, nor ſuffer them to have more rich food, than the delicacy of their youth and ſtructure can well digeſt. A ſmall variation is preferable to conſtantly giving one and the ſame thing; if there be one part too groſs, the next may in all probability correct it, and continue health by preventing any extreme.

SYMPTOMS.

THEY are ſeized very ſuddenly, and ſeem to have very little or no internal diſorder before the ſwelling takes place; therefore, the ſymptoms are only found where the malady exiſts.

It is diſcovered by a crackling and ſwelling, as if, between the ſkin and the fleſh, a quantity of air or wind had made its way, and if it be not diſcovered or put a ſtop to very ſoon, it will ſpread over a great part of that quarter which it firſt ſeized. It ſometimes begins in a joint of the leg or thigh, and is always found to riſe upwards; and, when it begins about the back or kidneys, it verges towards deſtruction very rapidly.

REMEDY.

THIS diſorder requires a more induſtrious application than many others in this treatiſe; for, no ſooner than it is perceived to be in poſſeſſion of the ſubject, there is no other text but kill or cure: therefore, whoever has it to combat, muſt be quick in his exertions, or he will ſuffer the diſeaſe to get the better of him. The firſt thing to be done is to let blood plentifully, and the next is to cut and ſcarify all the parts diſordered, to take away the blood or other fluids that may be in the ſeat of the diſorder, filling the parts with well pounded ſaltpetre, and, if it continue to ſpread over the ſurface of the beaſt, ſcarification muſt not be omitted; but it ſhould be cut both before and behind the part affected, to prevent, if poſſible, its further progreſs: and, if the wounded parts turn black, they muſt be cut away, ſtill filling the place with ſalt-petre; for, if it reach the hollow parts of the body, your next viſiter is death. Alſo get, as ſoon as poſſible, old ſtale urine, hemlock, and pigeon or hen's dung; boil them up together, and bathe the neighbouring parts, to prevent the ſwelling from communicating itſelf any further. It is only by fomenting inceſſantly that the diſorder can be conquered, and a ſuppuration or running will take place from the wound, which muſt be kept up by the ſalt-petre.

THIS method of treatment has been found of very great ſervice, when timeouſly adminiſtered; but the rapidity of the diſorder, and a want of the articles required, have often been the means of many a valuable beaſt being loſt.

RED WATER, OR BLOODY URINE.

THIS diſorder is very common, throughout England, Ireland and Scotland; and the ſeaſon that cattle are moſt ſubject to it, is at graſs, in the ſpring or ſummer, although it is often known to take place at any other time of the year, but moſt frequently in the ſeaſons above alluded to. Its cauſes are found to be various, but principally from ſudden or ſevere changes; ſuch as, the want of water, at any time, or that which they get ſtagnant and unwholeſome; a ſudden change from heat to cold, or an entire change in the nature of their food, either in ſummer or winter; or from an overflow of blood in the veſſels.

THIS malady has the appearance of an overflow of that fluid for its origin at all times, but it takes its riſe more frequently from ſome other cauſe. But, whatever be its foundation, the effects and conſequences are nearly the ſame: and the beaſt, that has caught it, is ſeldom or never known to recover, without the aid of medicine. Young cattle are more ſubject to it than thoſe that are more matured by years, owing to the tenderneſs of their youth, and the veſſels not being inured by time, to the diverſity of changes and ſeaſons; and from thence it is requiſite that great attention be paid to herds of young cattle, and particularly after this diſorder, for in many caſes, neglect has proved fatal, when care might have eaſily ſaved the patient.

WHEN it proceeds from a want of water, the blood is rendered thick and viſcid, which makes it unfit for the free circulation that the functions of the animal require, and makes a rupture in the ſmaller veſſels; and the blood makes its way through the urinary paſſages, which, without relief, gradually waſtes, until the beaſt has loſt the principal part of its blood by urine.

In caſes of bad and ſtagnant waters, ſuch as ſmall ponds, dams, &c. being the cauſe of the above diſorder, it is entirely from the waters being diveſted of its wholeſome and diſſolvent nature, which it poſſeſſes in its original and pure ſtate; and which is ſo abſolutely neceſſary, for conveying the nutritious qualities of other aliments; for, when it has no current, and ſtands upon large quantities of corrupt vegetables of different deſcriptions, for any length of time, it is generally infeſted with animalcula and vermin, which change the nature of the fluid into a viſcid corroſive quality, which vitiates and thickens the blood; inſomuch that it is not fit for circulation, and the diſpoſition of parts lead it to rupture, inflammation, or ſome other malady, which might probably have been prevented at that time, by a timeouſly letting of blood.

Also different kinds of aliment have a tendency towards the riſe and propagation of this diſeaſe, but moſt particularly when changed into a paſture, the herbage of which is of a ſtrong, coarſe, or ſourer nature than that where the animal was taken from, and in all probability the water partaking of its qualities.

WHEN this takes place amongſt cattle, the age of one or two years, that have been reared tenderly, the firſt or ſecond ſummer, and then meet with graſs of the above deſcription, it changes the nature of the blood, and other fluids of the animals, to ſuch a corroſive or coagulated conſiſtency that it ruſhes out of its channels, into the urinary paſſages, and makes its eſcape in the ſame manner as the others.

LIKEWISE, it may, and often does originate, in a ſudden change of air from heat to cold, North or Eaſt wind and rain, which ſhut up the pores of the ſkin, and force the blood into the larger veſſels nearer the centre of the animal, when the ſmaller veſſels give way, from the violent motion and circulation occaſioned by obſtructed perſpiration, which terminates in a rupture and loſs of blood, as above deſcribed.

SYMPTOMS

ARE an almoſt continued attempt to make water, but frequently voiding very little at a time, but when they make much and often, if it be deeply tinged with blood, it is a very dangerous ſymptom: and they generally leave the reſt of the herd, and, holding out their tail, ſeem to feel pain in the urinary paſſages; they are timorous about grazing, and frequently hold their back higher than common.

REMEDY.

Take	Powder of Stiptic,	2 ounces
	Sal Prunella,	3 ounces
	Nitre,	2 ounces
	Glauber Salts,	2 ounces
	Soft Sugar,	½ pound.

Boil up, in one quart of good ſtrong houſehold beer,

then add Balſam Capivi, 2 ounces.

Stir them well up together, and give for one doſe, when cool enough for uſe.

It is almoſt a general rule, with mankind, to be prejudiced in favour of himſelf, or with ſomething he is in poſſeſſion of; and, a cure for the above diſorder, happens to be in the hands of moſt people who have, or have not cattle: therefore, it is not to be wondered, why ſo many of thoſe animals fall victims to penury, or ſtupidity.

It is true, there are many recipes that have proved a remedy for the diſorder, but how few of them can warrant infallibility, or any ways prove a preventative to that alarming attendant diſorder called the lake-burn, ſo common in all ſeaſons, when cattle have the red-water, and at ſometimes on itſelf.

We do not pretend to ſet aſide any of the preſent favourite recipes; ſuch as the live *frog*, and a little *moſs-water*, or a piece of hung-beef, roaſted ſo hard as it will beat to a powder to give them, or an half pint of tar mixed with burned feathers, &c. but only to lay before the public, a well approved and experienced remedy, which is not only calculated to cure the malady under conſideration; but alſo to prevent the diſeaſe above-mentioned, which is known to be very ſerious in its conſequences, and has often been rendered incurable from the operation of medicine, given in caſes of the red-water.

It will alſo be requiſite to make ſome obſervations, concerning the aliment or diet of the animal under ſickneſs, which, if not judiciouſly apportioned, often contributes to the loſs or hazard of the beaſt. When it is firſt diſcovered, all its food ought to be of the ſoft and ſucculent kind; ſuch as bran or gruel boiled, or well ſcalded, with a ſufficiency of moiſture added to it; and, if the beaſt ſhews the leaſt ſymptoms of coſtiveneſs, a little ſallad oil may be uſed in the gruel only. For, if the beaſt eat hay or graſs plentifully (which they ſometimes will) the perſon who takes care of them, judges they are getting better, and ſuffers them to overload the ſtomach, inſomuch that they have not power to throw it back for rumination, or chewing over again, when it will either inflame, or turn ſour; and, in conſequence of which, a diſorder is the event. And while the food remains in the firſt ſtomach or ventricle, the animal receives not the leaſt nouriſhment from it; therefore, if they do not chew the cud, as cheerfully as eat, it will be very detrimental to the patient's health; alſo, great care muſt be taken that the beaſt be not bleeded in any ſtage of this diſorder.

INFLAMMATION OF THE THIRD STOMACH, OR LAKE-BURN.

THIS diſorder originates chiefly from two different cauſes, and is ſeated in ſuch a part of the animal, as makes it very dangerous, and without a powerful exertion of medicine, often proves fatal. It begins in the *omaſum*, or third ſtomach, commonly known by the name of manyplies or manifolds, where the aliment undergoes a more rigid maſtication than in any of the other ſtomachs, where it loſes moſt of its ſucculent and nutritive properties; and, when any aſtringent medicine is given to the creature, without a knowledge of its properties, with a deſign to remedy the diſeaſe of red-water, it never fails to heat and retard that excrementitious part of the aliment which is about to paſs from the third to the fourth ſtomach, and bowels, where it immediately inflames, and ſhuts up the paſſages of the whole inteſtinal canal, then the latter diſorder takes place, which muſt be removed before any thing can be adminiſtered towards the relief of the firſt, if it be not already effected. And when thoſe two diſorders become complicated, with any degree of ſeverity, there remains little hopes of recovery; however the latter ought to be taken away firſt, as being conſequent upon the former.

It is alſo ſometimes occaſioned from the food of the animal being extremely poor in quality, for its bulk, and affords ſo little nutriment, when digeſting, that it will not produce juices enough to make its own way through the ſtomachs and inteſtines, where it dries and meets a ſtoppage in the manifolds, and produces inflammation, in a very ſhort time. By a timeouſly application of the following medicine, a ſpeedy recovery may be effected.

REMEDY.

TAKE	Epſom Salts,	3 ounces
	Glauber Salts,	2 ounces
	Nitre,	2 ounces

Senna,

Senna,	½ ounce
Cream of Tartar,	½ ounce.

Boiled in two quarts of ale, then add

Balſam of Peru,	½ ounce
Oil of Sweet Almonds,	1 gill
Lintſeed Oil,	1 gill.

To be well ſtirred up, and given for one doſe, when cold enough for uſe.

SYMPTOMS

ARE hooſing, ſhortneſs of breath, groaning, and a great difficulty and uneaſineſs in walking, voiding very little or no dung, but if any, it is of a blackiſh and pitchy conſiſtency. It muſt be obſerved, that when cattle are affected with a ſhortneſs of breath, or hooſing, it more frequently has its riſe immediately in the lungs; but as this originates in the ſtomach, the ſymptoms will be found to vary from thoſe of diſorders in another ſituation, the ſhortneſs of breath, groaning and hooſing, all ariſe from heat, ſtoppage or inflammation of the parts, and not from any obſtruction in reſpiration, or breathing; but nature preſcribes a quicker action of the breath, to allay the heat, which rapidly increaſes, and without relief, will ſoon terminate in a ſpeedy diſſolution. The diet muſt be ſparingly given, and chiefly of the gruel kind, until the animal has got much relieved.

HYDROPHOBIA, OR WHAT IS COMMONLY CALLED MADNESS.

THIS moſt dreadful diſtemper, in black-cattle, is always the effect of the bite of a dog, or ſome other animal that is infected with the diſorder; and the ſymptoms of the diſeaſe ſo much reſemble thoſe of the megrim, or frenzy, that they have been miſtaken for one another, and the animal been ſuffered to die, from a misjudgment of the caſe. It is true, a beaſt in the megrim, &c. ſhews ſtrong ſymptoms of delirium and ſenſeleſsneſs; yet there is a wide difference in the diſorders. Thoſe that have been bit by a mad animal, and the diſeaſe come upon them, have a continued lowing and diſtreſs; a far greater profuſion of ſaliva iſſues from the throat and tongue, and their breathing is not ſo irregular: and it, for the moſt part, happens that the alarm may have been ſpread, if any dogs in that predicament were in the neighbourhood.

If they are ſeen bit, or found ſoon after, the wounded parts ſhould be all cut away with a ſharp inſtrument, and let bleed freely for a ſhort time; when they ſhould be well bathed with ſalt and water, made very ſtrong, then give the Ormſkirk medicine, and do not ſuffer the wounds to heal, before running a quantity of matter.

The Ormſkirk medicine has not anſwered the good purpoſes wiſhed for in all caſes of this diſtemper; yet there is no known remedy ſo generally approved; and very probably, when it does not anſwer the end deſigned, it may be from ſome impropriety of adminiſtering it. Therefore, it would be at all times the moſt adviſeable to prevent, as much as poſſible, a malady ſo alarming, by a ſeaſonable attempt in applying the medicine above recommended.

DROPSY

IS a diſorder that black-cattle are ſometimes ſubject to, but it is not a very common diſeaſe. Its cauſes are moſtly from ſome hereditary taint, overdriving, or ſtarving, and it affects them differently under different circumſtances. It is always attended with large gatherings of water, ſometimes in the cheſt or abdomen; others have a ſpungy wateriſhneſs in their fleſh, that cauſes great drought and heat in the animal, which is often the occaſion of contracting and binding the ſmaller inteſtines, and urinary paſſages, that render great difficulty to the animal in making water: but whenever the beaſt ſhews any diſpoſition to a dropſical habit, there is very little hopes of working a cure by medicine, or any other means, as the frame is paſt all remedy, except a temporary one by tapping, or taking away the water, which ſcarce ever fails to collect again, in a ſhort time. Therefore it is thought the moſt adviſeable way to cut them off before any expences have occurred, in trying to remove a diſorder that has ſo few proſpects of being attended with any good effect.

ON WOUNDS AND BRUISES.

BLACK-CATTLE are ſubject to many misfortunes, ſuch as knocks, bruiſes, and ſometimes broken bones; which vary ſo much in their ſtate, ſituation, and nature, that it is not poſſible to explain and diſtinguiſh, within the compaſs of this work, what might befal the animal under ſuch a variety of circumſtances as they may be expoſed to. Therefore we ſhall only attempt to give a few approved uſeful and ſimple inſtructions, which are well adapted and have been ſucceſsful in common wounds, cuts or bruiſes.

IF a beaſt get a knock or bruiſe, in any part of its body where the ſkin and fleſh are not broken, there will probably be a ſwelling and inflammation about the parts, and by bathing it well with rectified ſpirits of wine camphorated, and a cut or inciſion, made with a ſharp inſtrument, immediately below or under the place that has received the contuſion, which will materially aſſiſt in cauſing it to ſuppurate and throw off that matter, which the knock or bruiſe may have cauſed to coagulate and gather to the place. Then as ſoon as the bathing &c. is finiſhed, prepare the following plaiſter.

Take	Burgundy Pitch,	2 ounces
	Venice Turpentine,	1 ounce
	Frankincenſe,	1 ounce.

Stir them up over a moderately warm fire, in any kind of a clean veſſel, and ſpread it upon white leather, or a ſtrong linen rag, then let it be well tied on with a bandage, that will keep it upon the place, and when the wound begins to diſcharge matter freely, make the following digeſtive ointment.

Take	Yellow baſilicon,	2 ounces
	Balſam Capivi,	1 ounce
	Venice Turpentine,	1 ounce.

Well mixed, and lay a little of it upon lint or tow, and put into the wound or inciſion, which will make it cleanſe and digeſt, by the help of the plaiſter, into a perfect cure in a very ſhort time. Or, if a wound happens to be in a fleſhy part, where the ſubſtance has penetrated deeply into it, great care muſt be taken that it be well waſhed with warm water, and a little new-milk applied by a ſyringe or ſquirt, to the bottom of the wound; and, if there be any ragged fleſh, it muſt be cut away early, with a ſharp knife; then, after waſhing, fill the wound with lint or tow, dipped in the ointment, with the former plaiſter cloſely bandaged over it, and be particularly mindful to keep the place clean, and free from the air, as much as poſſible, or its recovery will be materially retarded, by the mouths of the tender veſſels being expoſed to the common atmoſphere, which ſtops their gentle ſuppuration when they meet obſtruction from that element, and is the immediate cauſe of inflammation, ſwelling and numberleſs unfavourable ſymptoms, that may not be eaſily removed.

JAUNDICE, OR YELLOWS,

IS a ſlow lingering diſorder, that all deſcriptions of black-cattle are liable to; and moſtly takes its riſe from an obſtruction in the biliary ducts, occaſioned by a thick, ſlimy or coagulated phlegm, which is of a too groſs and glutinous conſiſtency to be taken into circulation. Therefore, it ſtops the uſual paſſages of the bile, and forces a quantity of it into the blood.

THIS fluid is a thick and bitteriſh liquor, of a deep yellow colour, ſecreted in the gall-bladder, where it ſometimes meets with a ſtoppage from a thick clotted matter, commonly called gall-ſtones, which falls into the lower orifice, where it ſhould make its eſcape into the inteſtines. This alſo cauſes an overflow, or regurgitation of bile into the ſyſtem, as in the previous caſe: hence ariſes the tinge, ſo evidently perceptible all over the body, when it mixes with the blood, and is brought into circulation.

A jaundice that ariſes from thoſe ſimple cauſes, is in no danger of meeting relief by proper application; but ſometimes it has, for its origin, a principle that is found very difficult to remove, and not eaſily diſcovered, until the diſorder has confirmed it by obſtinacy, in not giving way to the common preſcription and remedy which has been ſo often found to work a perfect cure.

When a ſcirrhus, tumour, or ſwelling takes place in any part of the liver, bordering on the gall-bladder, or the biliary ducts, it may, by its preſſure, cauſe a quantity of bile to iſſue from its proper channels, into the ſyſtem; and, if the ſwelling increaſe, the whole fluid may be hindered in its due courſe; conſequently the diſorder will ſoon ſhew very unfavourable ſymptoms, as turning deeper in colour, and the beaſt much weaker in frame, from ſo long a continuation of ſickneſs.

But whatever be the origin of the diſeaſe, its ſymptoms are the ſame, in the firſt ſtages of it, and perfectly eaſy to diſcriminate from any other; having no ſimiliarity to any ſickneſs that this domeſtic animal is incident to. Its firſt viſible ſign is a yellowiſh tinge, in the white part of the eyes, mouth and tongue; the mucus and ſaliva, from the noſtrils and mouth, are of a greeniſh hue, bordering a little upon yellow. The beaſt dull and heavy, loathing all kinds of food, eating no more than a bare ſufficiency for the ſupport of nature; the ſkin dry and itching, and eſpecially behind the ſhoulders, where it can ſcarce bear the touch. They have an utter averſion to exerciſe, or ſtirring from the place where they are, and if removed with the leaſt degree of precipitation, will burſt into a cold ſweat. Their urine is of a deeper yellow than uſual, which has ſometimes led people to believe it was the red-water, or bloody urine: but this can be only when they never enquire after ſymptoms at all. The dung undergoes a very conſiderable alteration, in all ſtages of the diſeaſe, and its general tendency is bluiſh, or brown, and much reſembling burnt clay; but it varies in colour according to the ſubject, or different circumſtances and ſeaſons. If your beaſt be in pretty good condition, you may let blood ſparingly, to ſee its conſiſtency; and give a trivial change to circulation, which will alſo be of advantage to the operation of medicine.

Take	Turmeric,	2 ounces
	Saffron,	two-penny-worth
	Cinnamon,	two-penny-worth
	Venice Treacle,	1 ounce
	Myrrh,	½ ounce.

Boiled in one quart of ale, and given for one doſe; to be repeated once in two days for three times; if there be no conſiderable change for the better, after the firſt is adminiſtered.

The FOOD or REGIMEN

OF the animal ſhould be paid a great deal of attention to, in thoſe caſes: it has been before obſerved, that they take very little ſuſtenance, which ought to be remedied, if poſſible, by offering them, in ſmall quantities, maſhes of malt, bran or other comfortable and opening aliment; which will both ſtrengthen the ſyſtem, and keep the body gently open; as the beginning of the diſorder is always accompanied with a coſtive habit, which ſhould be drawn to a medium, by gentle emollients, ſuch as gruel of barley-meal, or flour, in quantity about two quarts, and one gill of ſweet or ſallad oil mixed with it; and this will be very proper to be given, if the beaſt loath every kind of food, keeping the oil out, except the ſtate of the habit require it. It may be horned in, and given twice every twenty-four hours.

If it be found that any ſcirrhoſity, or ſwelling of the liver, is the occaſion of the diſorder, all hopes of recovery may be doubted, owing to the remote ſituation of its primary cauſe; and little effects may be expected from the powers of medicine, when combating ſuch a hard glandular induration; and when it arrives at its later ſtages, it is called the black jaundice; yet the nature of the diſeaſe is not changed, but only more confirmed, from the conſtant reflux of bilious matter circulating with the blood, and the animal's indiſpoſition, increaſed to a degree of languor and weakneſs, which will render it very difficult to preſcribe for a removal of the ſickneſs.

FOULS

IS a diſorder, or lameneſs in the feet of cattle, of which there are two kinds. One is of a ſoft, and the other a horny kind, and without paying particular attention, they are often treated alike; when, at the ſame time, a proper diſcrimination is neceſſary. The firſt, or ſoft kind, proceeds from tumours falling from the body into the legs and feet, and breaks out with a nauſeous and diſagreeable ſmell, either between the hooves or on the heel: and, when it breaks out with ſeverity, the animal is extremely lame, which is much augmented by the neceſſary exerciſe it is obliged to perform in procuring its food; and beſides, it is a moſt unfavourable ſituation for a regular diſcharge, but if particular notice was taken, when the firſt ſymptoms took place, much might be done with due application, but the great averſion people in general have to preventatives, either on account of a trivial portion of labour, or the dread of parting with ſome of their darling favourite *pence*, they would far rather be made willing, by neceſſity, to expend a pound, than voluntarily venture ſixpence, to try a rational and well founded experiment, that in all probability, would have been a ſaving of the odds. There are ſome cattle that are more ſubject to the fouls than others; and there is ſome ſmall difference of ſituations, particularly low ſoft ground, but with ſtrict application, and an intention to remedy the evil depending, much may be expected, from a timely perſeverance. When any appearance of the diſorder takes place, bleeding in the neck is proper; —yet blood-letting from a milk cow is deemed extravagant indeed, but by performing this operation and waſhing both hind legs, twice every day (if it be ſeated in the hind parts) well with ſoft water and ſoap, and being careful not to leave them until rubbed perfectly dry, either with ſtraw or a cloth; when this is done, it will either prevent the diſorder, or render it much eaſier to cure, when it makes the attack. And if the diſorder does take place, the beaſt becomes lame, and a nauſeous running enſues between the hooves, or on the heel. The firſt thing neceſſary, in this caſe, is to cut away all the ſoft ſpungy part, with a ſharp knife, or other inſtrument fit for the purpoſe, and after the operation, ſuffer it to bleed freely; then dip a pledget of tow or lint in oil of vitriol, or ſtiptic, or aquafortis a little brought down with water, then cover the wounded part well with wrappers, that are ſtrong, and will hinder any air or dirt from getting to the place. Alſo, at the ſame time, great care ſhould be taken, that the beaſt graze on dry ground, or the application will immediately loſe its power of doing ſervice. Let this ſtay on two days, then take it off and cover the wound with a plaiſter or pledget, of gentle healing ſalve; or if this cannot be conveniently had, a ſlice of bacon will ſupply its place. Tye it well on, and let it ſtay two or three days; all this time, ſuffering the beaſt to take as much reſt as poſſible: for, walking much will inflame the wounded part, and being obliged to graze draws tumours from the body downwards, both of which greatly retard the cure; but to remedy, as much as poſſible, thoſe misfortunes, a little ſweet graſs might be cut and given to the animal, when at reſt, at all convenient times. For, nothwithſtanding the inveteracy of the diſorder, cleanlineſs and eaſe contribute very largely towards a relief from its inconveniencies.

At the termination of the time alluded to above, the wrappers may be taken off, and the wound and foot clean waſhed with warm milk and water, which will ſhew the ſtate of the diſeaſe, and a proper judgment may be formed whether there requires any more to be cut away; and if there do, it muſt undergo the ſame treatment as at firſt; but if the operator performed his taſk with any degree of maſterſhip, little doubt need be entertained of any more occaſion for ſimilar ſervices, but to repeat the ſalve or bacon as before, and by keeping the wound clean and dry, allowing the beaſt as much eaſe as poſſible, and a ſufficiency of water, a ſpeedy recovery may be looked for.

And ſhould there any doubts ariſe, which will be the beſt paſture for the animal to be in, when the part is cut. The anſwer will be a total dependance on circumſtances. If a cow in calf ſhould be thrown down for the purpoſe, it would be in danger of cauſing abortion, which ſhould be avoided by all means; and the beſt general method will be found to tye the beaſt cloſe up by the horns, or in a halter, to a tree or poſt; and, when this is done, take up and hold faſt, that foot the moſt diſtant from the one you are going to cut; then, with a ſharp knife, or other inſtrument, made very narrow, perform the operation with all poſſible diſpatch, and it will be found, that the animal will feel very little pain, or diſcompoſure from the effect.

If ever it be neceſſary to throw the animal down, it ſhould always be on a ſoft dunghill, or a meadow; to prevent bruiſes and other diſagreeable accidents, which might occur by uſing that violence which is requiſite to throw the beaſt off its feet: beſides, any extreme agitation is particularly hurtful to cattle labouring under lameneſs, or any other diſorder whatever.

FOULS OF THE HORNY KIND.

THIS diſorder differs much from the other in its origin, and alſo in its appearance, when critically inveſtigated, though it is often ſeated in the ſame places. The cauſe is generally from a knock or bruiſe on thoſe parts, and becomes much of the nature of corns in the feet; but the inability of animals to do themſelves any ſervice, at the moment of diſtreſs, or to communicate their wants to man, renders them under the dire misfortune of their diſorders being confirmed, and ſometimes incurable, before the diſcovery be made, or proper remedies applied. When any lameneſs in the feet occurs, the general mode of treatment is a recourſe to cauſtics in abundance, without making preparation, or a proper enquiry whether they may be of ſervice or the contrary; and many valuable cattle are puniſhed for whole months, for want of this trivial, but neceſſary diſcrimination.

If it be of the horny kind, it will be hotter than the other, without that nauſeous ſmell; and the diſcovery may be made by the touch, which will cauſe a ſenſible, and acute pain to the animal, when hard preſſed. And, if it be of long ſtanding, the horny part will, in all probability, have penetrated a conſiderable depth into the ſofter parts of the foot, either on the heel or between the hooves: and, when the operation of cutting is performed, due attention muſt be paid that the horny ſubſtance be totally cut away; otherwiſe no cure can be expected. In this caſe, the beaſt may be thrown down, if circumſtances will warrant it, as the depth of the wound entirely depends, whether the cauſe of the lameneſs has taken deep root in the foot; and when the operator has performed his taſk, it may be treated in the ſame manner as the common *fouls*, in every reſpect.

GOUT, IN THE LIMBS OR FEET, OF HORNED CATTLE,

SO nearly reſembles the nauſeous kind of *fouls*, that they are by ſome taken for each other, and without any kind of diſtinction undergo a ſimilarity of treatment; but, as there is a material difference of the diſorders when confirmed, they require each a peculiar and diſtinct method of application to effect their different cures. The Gout, as well as the *fouls*, has its origin from a ſuperabundance of tumours, which, when not carried off by perſpiration or other evacuations, fall into the extremities, and occaſion different diſorders, according to the conſtitution and habit of the animal. Theſe kind of diſeaſes are moſt frequent in ſummer, when the food is ſucculent, which enriches the fluids, and the ſuperfluous part becomes glutinous when it reaches the finer veſſels, and in time produces inflammation and ſwelling, which is the ſtrongeſt ſymptom to diſcriminate the difference between the Gout and the *fouls*. In its firſt ſtages, it ſeizes a joint, or any other part of the limb, and if rational attempts be not made to remove it, it falls into the feet, and has been known to occaſion the loſs of one or both hooves; but, when this happens, it may be imputed to neglect or ignorance. When it is firſt diſcovered, it ſhould be well rubbed with ſtraw, or a coarſe linen cloth, which will be of infinite ſervice in ſeparating the thick gummy fluids, which are coagulated and rendered over-thick for circulation, and the ſtagnation of it has cauſed the ſwelling and diſtention of the parts affected; then, after it is well rubbed (for this is the foundation of a cure) for a conſiderable time, blood ſhould be let as near the parts as poſſibly can be got; and eſpecially below or under it, and in the ſwelled part. One or two cuts or incifions, muſt be made in order that the extraneous matter may be brought to ſuppurate or run off the ſooner, as repellents, or any thing to throw it into circulation again, would be perfectly wrong. Alſo, all the cuts or inciſions made in or near the ſwelling, ſhould be done lengthways of the limb, ſo that no tendon or other veſſel be cut acroſs, and the matter will run eaſier off. At the time the inciſions are making, a poultice may be preparing, of ground liverwort wheat-bran, or oat-meal; any of thoſe, well mixed with hog's lard, and applied to the place moderately warm, and care muſt be taken that all the parts affected be well covered, and made ſecure with wrappers or bandages, that no air can reach the wound for the ſpace of two days; at which period it may be taken off, and the place well waſhed with warm milk and water, rubbing it well where the beaſt can bear it: and, when the change of plaiſter is performed, be careful to have another ready, and keep the wound clean at all times, expoſing to wind or air as little as poſſible, giving reſt to the parts diſeaſed whenever circumſtances will permit. This poultice regularly applied every two days, or as may be found neceſſary, will, in all probability, remove the complaint in a ſhort time. The diet may be as uſual; but in all caſes of lameneſs, the beaſt comes at its food with much more difficulty, and conſequently is obliged to make much leſs ſerve than uſual. If the diſorder be very inveterate, bleeding may be adminiſtered.

LOOSENESS, FLUX, OR ROTTENNESS,

ORIGINATE from many different ſources, and ſometimes judicious treatment may be of ſervice; but, in general, it is beyond the art of man, or the power of medicine, to be employed to good effect, in caſes of rottenneſs. Its common cauſes are,

WANT of ſufficient nutriment in quantity or quality.
Over-heated in labour or driving.
Hereditary defect, or taint in the ſtock, and ſometimes from giving them cut-hay, ſtraw, or chaff, hotter than their own temperature.

FROM whatever cauſe the diſorder takes its riſe, its termination, ſymptoms, and remedy, are nearly the ſame; and to uſe means of prevention will be found, by experience, much to exceed that, of ſeeking a cure. Whoever has cattle under their care, and denies them ſuſtenance for the due ſupport of nature, invites a number of diſorders to wait in readineſs for a proper time to make their attack; and, amongſt the number, that laxative weakneſs, commonly termed *rottenneſs*, makes one. It is worthy of remark, that when horned cattle are left to their own choice, they ſcarce ever eat or drink, in quantity, ſo much as does them harm. And, from this criterion alone, the knowledge of a ſufficiency for their plentiful ſupport, without any profuſion, may be eaſily attained; and, when that is carefully ſtudied and adhered to, it will be found, that both advantage and ſatisfaction will be the reward of ſuch care and attention.

Horned cattle, like the reſt of the animal creation, differ much in their conſtitution and natural ability, to meet the extremes of hard fate, or uſage, from cruel maſters, or the ſeverity of ſeaſons and climates, from whence ſo many of their maladies draw their ſource. When the diſorder alluded to above, is from want of food, or from its bad qualities, it may be literally termed, *ſtarving to death*.

Whatever be the age or ſize of the animal, nature has proportioned the organization of parts, to perform the different functions neceſſary for the diſtribution of animal œconomy. But, if proper ſupplies of nouriſhment be with-held, a regular decay is the event; the blood is prevented from giving its requiſite ſuccour to the other veſſels, which are directly aſſiſted by its medium; and, by this inſufficiency,

ſufficiency, the circulation is weakened, which is the primary ſpring of animal life. Then follows a contraction of the whole ſyſtem, accompanied with debility and weakneſs, that render the creature alike unfit to bear heat or cold; the former ſometimes occaſions exceſſive perſpiration and ſcouring, both tending to haſten weakneſs apace, and the latter puts a ſtop to inſenſible perſpiration, owing to the pulſation being too weak to perform its office. Dry keeping, a regular and conſtant diſcharge of perſpirable matter, the pores of the ſkin being cloſed, it becomes hard and dry, the fleſh much impaired, the hair changing colour to ſandy, or greyiſh, and the poor creature verging faſt to a ſkeleton.

THEY are moſt affected at the changes of going to or from graſs, if they have laid the foundation of their diſorder in winter, which moſt frequently happens, particular care ſhould be taken that graſs, or other ſucculent herbage, be not given profuſely of itſelf; but, that it be accompanied with other, and harder food, to prevent a ſudden and ſevere lax, at a time when it would be difficult to ſtop, and dangerous to attempt it.

IT more frequently owes its foundation to overheats, than any other ſingle cauſe; and, in driving cattle, it is very rare to find ſo much care taken of them as their nature requires; beſides, the condition and conſtitution vary ſo much, that it is a moral impoſſibility, for the moſt minute inquirer, to be aware of every circumſtance, that may occur in the removal of cattle from one place to another.

The effects of heat, on this animal, that tend to a laxative decay are two. The firſt when the blood is, by the velocity of motion and heat, hurried through the arteries, and veins, faſter than the ordinary pulſation. The blood becomes more thin and fluid, and requires the aid of reſpiration and perſpiration, in a greater degree than common, to act in its behalf, and keep it as near the temperature of their ſyſtem as poſſible. But, when there is a continuation of ſevere exerciſe, without any interval to allay the increaſing heat, or ſtop the progreſs of the depending evils, it may be preſumed the paſſions will not be at reſt; but be rouſed to a degree of deſperation, which accelerates the motion of the blood, inſomuch that it affects the brain, hence comes rage, ſtupor, madneſs, or death itſelf. If the creature be left with life and ſenſibility, the blood muſt be in a very agitated ſtate indeed; and it will take an infinite deal of care to rectify it for its proper functions; but, in all probability, the extreme heat has tainted, or diſtilled the principle of action from its ſeat.

When this is the caſe, the chyliary, and other veſſels, being alſo conſiderably diſordered, refuſe to ſecrete the uſual nouriſhment from the food which, being hurried through the inteſtines without performing its uſual functions, ſoon brings on a ſevere lax, the remedy of which is not eaſily attainable.

OVER-HEAT

HAS another dangerous effect upon cattle, when the blood may not have been materially injured, by melting the fat, which lines the inteſtinal tube, and thereby cauſes an irritable ſcouring, which often terminates in conſumption.

SYMPTOMS OF ROTTENNESS, OR REGULAR DECAY.

A General debility and loſs of fleſh; ſkin either remarkably looſe, or hard and dry, ſet cloſe to the carcaſe without flexibility; in the latter caſe the hair turns ſandy or greyiſh, the eyes and parts adjacent grow paler, their pulſe weak and irregular, and their blood poor, their excrements thin and ſlimy, frequently changing colour at the beginning of the lax; both cold and hot weather diſtreſſeth them much, the appetite weak, and when the diſeaſe is advanced pretty far, the dung they void appears not properly maſticated, which is a proof that the ſyſtem is impaired, and not able to perform its due operations.

THE trueſt and moſt certain ſymptom, when the leaſt ſuſpicion ariſes, is to handle or grip the beaſt on both ſides of the back-bone, juſt behind the ſhoulders; and, if there be any taint or unſoundneſs of that kind, the beaſt will ſhew evident ſigns of diſtreſs and pain in thoſe parts, and from thence a judgment may be formed, if medicine will be of any ſervice after the diſorder is ſeated.

TAKE	Bole Armeniac,	3 ounces
	Bay Berries,	2 ounces
	Allum,	2 ounces
	Shavings of Ivory,	2 ounces
	Comfrey Root, powdered,	2 ounces,

Boiled in two quarts of milk, twenty-four hours from the cow, and the cream taken off—alſo, to be added while boiling, one handful of ſtarch—This to be given for one doſe, and may be repeated at the end of three days.

IT will be neceſſary to point out a mode of prevention of the bad effects that might ariſe from ſevere heat, or violent exerciſe; when the beaſt can be brought to reſt, great care ought to be taken that a comfortable cordial be procured, ſuch as a bottle of Daffy's Elixir, or a quart of good ſtrong home-brewed ale, boiled with two ounces of aniſeeds, or caraway ſeeds, and given moderately warm, the extremities and back, rubbed well with ſtraw, and a woollen cloth thrown over the beaſt; by this treatment, the perſpiration will be kept gently up, until the beaſt cool, by moderate degrees, while on the contrary, it might, in all probability, have ſtagnated both the fluids and ſolids, by cooling too faſt; this is the moſt certain period when care and attention will be of real ſervice.

PARTICULAR attention ought to be paid, that the animal have no water, until perfectly cooled. Cold water might bring on convulſions, and warm water be productive of ſickneſs; after cooling moderately, a little exerciſe will be requiſite, and rubbing well with ſtraw, giving them a little hay or graſs, as the ſeaſon may produce.

COUGH OR HOOSING

COMMONLY bears a ſtrong reſemblance to aſthmatic complaints; and, when it originates in a ſudden change from heat to cold, immediate inactivity, after violent labour, heat or other exerciſe, or a conſtitutional diſpoſition to infirmity in the lungs, it may be termed aſthmatic. But its riſe and foundation is ſo widely different, that a diſcrimination, of the cauſes and effects, is neceſſary.

This diſagreeable hooſing, is often occaſioned, by getting accidentally ſome light indigeſtible and unwholeſome ſubſtance in its food; ſuch as feathers, corkwood, &c. From this laſt cauſe, proceeds a more dangerous diſorder, than from the former, and cannot, with the ſame propriety, be called aſthmatical.

This animal has a remarkable quick inſtinctive conception, in diſtinguiſhing any thing unwholeſome, or diſagreeable to its health or taſte, ſo that inſtances of this kind rarely happen; yet it is liable to the accident; they are ſeldom taken in the field, except when the beaſt is grazing in haſte after faſting, or in eating hay in the houſe, but moſt commonly got in eating what is called, their *drinks* or *ſcalds*, ſuch as cut-hay or ſtraw, bran, chaff, &c. mixt with corn, which invites geeſe, hens, and all the winged tribe in the fold, to partake of the feaſt; who in return ſhake their feathers into the food, which are eaſily taken when wet, and not ſo diſtinguiſhable by the beaſt. Into whatever ſtomach this indigeſtible ſtuff may happen to make its way, the powers of maſtication, which reduce the aliment in common, have no effect upon this; therefore, its paſſage muſt be ſlower, than the excrementitious part of their food, and its ſtoppage will create tickling and uneaſineſs, and the beaſt often attempting, by an effort of the lungs, to diſplace the object of its diſagreeable ſenſation, but without being able to effect its purpoſe.

The greateſt probability of ſucceſs, and the moſt likely means of removing a complaint like this, is a careful and regular perſeverance, in giving the animal good ſucculent and nouriſhing food, ſuch as will tend to keep the body gently open; and, if the diſorder appear to be immoveable, the beaſt may be getting into ſuch condition, as the proprietor may wiſely judge beſt, to feed and put it on the liſt of thoſe deſtined for the butcher.

The paſſages of the ſtomach are ſo extremely difficult, for any foreign or extraneous matter, that the riſk would be very inadviſeable, when convinced of the cauſe of the diſeaſe; for, ſhould it reſt in that ſtomach, called the manyplies or manifolds, an inflammation and ſtoppage, or conſumption, and decay would, in all likelihood, be the event. And, if it was poſſible to be before-hand with a conſequence ſo ſerious, it would certainly be the moſt prudent to embrace that opportunity.

The cauſes and effects of the others are ſo nearly ſimilar, that they may with propriety be treated under one head. The quick tranſition from heat to cold in the air, or the ſudden change from violent exerciſe, heat, &c. and if the ſituation of the beaſt does not admit of a regular cooling, it is often followed by indiſpoſition, accompanied with a difficulty of breathing, which is often termed, the beaſt has got a ſlight cold, which in fact may be the caſe; but to what degree, it is not at firſt eaſy to aſcertain. When the beaſt is in high perſpiration the pores of the ſkin are more open than uſual, by which means the agitation of the blood is throwing off matter that, when plentifully diſcharged, is called ſweat. The eſcape of this fluid tends greatly to keep the body cooler, aſſiſted with the action of reſpiration or breathing, theſe two evacuants are the chief agents, in giving to the animal the equilibrium and temperament of the climate where it is an inhabitant; but when this degree of heat is exceeded, and meets with a ſudden change of cold air, the pores are thereby ſhut up, and the perſpirable matter thrown back again into the larger veſſels, or centre of the animal; and a glutinous phlegm enters the lungs, and much impedes reſpiration or breathing; from whence ariſeth ſhortneſs of breath, tickling and hooſing: and if nature, and the diſpoſition of the parts, be not able to throw off ſuch matter as has taken its ſeat there, medicine ſhould be adopted without delay, or it may ſoon be productive of inflammation, or ulcer in the lungs, which precedes conſumption and death, and the hopes of remedy loſt. The following medicine, adminiſtered with proper care, and in due time, may be of infinite ſervice, in the caſes laſt treated of, and has been attended with ſucceſs in the former; but in all diſorders, timely application claims a great ſhare in the merits of the cure.

Take	Beſt Raiſins of the Sun, ſtoned,	½ pound
	Flower of Liquorice,	1 ounce
	Flower of Sulphur,	1 ounce.

Boil theſe in three pints of ſoft water; then add

Balſam of Sulphur,	½ ounce
Balſam of Tolu,	½ ounce
Syrup of Coltsfoot,	1 ounce
Oil of Sweet Almonds,	1 gill.

Stir them well up together, and when cool, give it for one doſe, and repeat it in three days time.

FINLAY, OR MAWSICK,

IS nearly related to the diſorder deſcribed under *inflammation* in the *firſt ſtomach*, whoſe origin are ſimilar, but take a different turn, either from the diſpoſition of parts, the ſeaſon, or the nature of the aliment or ſubſtance, upon the ſtomach, that gives birth to the diſeaſe.

In winter it more commonly terminates with inflammation, and in ſummer with mawſick; from whence it is preſumed, that the more juicy and ſucculent food turns ſour and vitiated, which creates a nauſeous and diſagreeable taſte and ſmell in the animal's ſtomach; inſomuch that they will ſometimes eat up, indiſcriminately, any thing that comes in their way, and render themſelves a great deal worſe; if they be not prevented from getting any unwholeſome traſh, that would be very loathſome, and particularly to a diſordered ſtomach. It is found that eating ſubſtances, which are not alimentary, give riſe to this diſorder.

SYMPTOMS

ARE a naſty ſickly breath, more nauſeous than that of the inflammation in the ſtomach, with belching and ſickneſs; alſo an averſion to drink water; fond of lying, and when raiſed are continually hunting or eating any dry dirty ſubſtance they can meet with.

REMEDY.

THE firſt thing to be done is letting blood, which will moſt likely be thick and ſizy, from the want of a ſufficient quantity of water, which the animal always loaths in this diſorder, and when the ſyſtem has not a ſufficiency of that indiſpenſible and uſeful article, the blood is always affected by it: Therefore, it ſhould be offered whenever the diſorder is diſcovered; and, if they refuſe to take it, a ſmall quantity may be given before medicine.

TAKE	Powder of Gentian Root,	2 ounces
	Bay Berries,	1 ounce
	Turmeric,	1 ounce
	Venice Treacle,	1 ounce
	Myrrh,	½ ounce
	Cream of Tartar,	½ ounce
	Sallad Oil,	1 pint.

The firſt articles boiled in three pints of water, and the oil added, when boiled, to be well ſtirred and given for one doſe, when milk-warm; and, in the courſe of eight hours, offer water as much as the beaſt will take; but if it refuſe, a quantity may be horned in, to the meaſure of three pints, and if a conſiderable change for the better do not take place, in twenty-four hours, the medicine may be repeated, or if the animal ſhew no diſpoſition to feed, a little gruel, ſeaſoned with ſalt, may be given.

CHOLIC OR GRIPINGS

ARE one and the ſame diſorder, therefore no diſcrimination need be attempted; and it is more frequently found to attack young cattle than aged ones; yet thoſe of the latter deſcription are not exempted from it. When a griping ſeizes the animal, it is generally after eating a quantity of cold, raw or ſouriſh food; and perhaps drinking plentifully of cold water, when the preſent ſtate of animal heat cannot bring into motion that maſs of aliment, or fluid in due time, ſo as circulation may not be impeded; it directly irritates the inner ſurfaces of the ſtomach and bowels, by its cold or acrid qualities, that cauſe violent twitching pains, which are evinced by the animal's rage and uneaſineſs.

SYMPTOMS

ARE a continued ſtriking and fidging; lying down and getting up again; inceſſantly rapping its head and horns againſt any thing that comes in its way: inſomuch that, if care be not taken, it may injure itſelf materially. All the paſſages of the excrements are much affected, ſometimes by looſeneſs, and at other times by coſtiveneſs; but this happens from the habit of body the animal was in, previous to its being ſeized; and which ever it tends to, very ſoon comes to an extreme, and adds to the ſeverity of the original diſeaſe.

REMEDY.

IF a ſpeedy relief be not procured, the parts affected ſoon inflame, and the conſequences become of a more ſerious nature, which might be prevented by adminiſtering, at the firſt attack, a ſmall bottle of true Daffy's Elixir, which is an excellent medicine in bowelifh and cholic complaints, in either the human or brute ſpecies, and every perſon who ſtands expoſed to loſſes in cattle, by diſeaſes of this kind, ſhould never be without it, becauſe it will be of ſervice in many ſimilar caſes.

THIS is only mentioned as a preventative of worſe conſequences, which, in this diſorder, or any inflammation that might ariſe from it, will be perfectly removed, by the following ſpecific compoſition.

TAKE Three gills of good Strong Ale
One quarter of a pound of Soft Sugar,
Boiled and ſtirred up well together; then add, when cool enough to give,

Oil of Sweet Almonds,	2 ounces
Oil of Lilies,	2 ounces.

To be carefully horned in, and repeated in twelve hours, if all ſigns of the diſorder have not left the beaſt.

THEY ought to be kept in a moderately warm houſe, and covered with ſome kind of cloth, after the medicine is given, to encourage a gentle perſpiration, &c.

SORE UDDER

IS a diſorder attended with conſiderable loſs and diſappointment, to the farmers in general, but if proper methods were taken, it might be ſo often prevented, that a cure need be ſeldom ſought for. By attending to the following advice, much advantage may be expected.

Now, ſuch cattle as are liable to this misfortune are, thoſe who have ſhewn the greateſt conſtitutional ſymptoms of yielding large quantities of milk, much more than thoſe that have a natural tendency to grow fat or fleſhy: the reaſon is obvious, and may be deduced from facts; a good cow is often milked until ſhe is nine or ten years old, which habituates the ſyſtem to appropriate the juices of the food, which the frame does not itſelf require, to the milk veſſels, whence they are ſoon conveyed to the udder, and there perfected and diſcharged in its uſual way. It will be eaſily admitted, that a long habituation ſcarce ever fails to become conſtitutional, from whence we may conclude, that a beaſt of this deſcription will require more care and attention to divert that overplus of ſuſtenance another way, which contributed ſo largely to milk.

It is proved, by undoubted experience, that the blood of the animal, and the milk, have a near relation and connection with each other; that, if a healthy beaſt, in the height of its milk, be bled frequently, the milk will almoſt leave it totally; and from this it is evident, that the circulation has the firſt claim to the nutritious part of the food, and the milk ariſeth from an extroardinary portion, which the circulation and other functions of the animal do not require.

If the above arguments are true, it will be neceſſary that cattle of this deſcription be regularly prepared, for the change they are intended to undergo, which, if treated judiciouſly, will leave no room to doubt of ſucceſs. They are often milked dry, or near it, in winter, when they are intended to be grazed in ſummer; and from thence no harm is ſuppoſed, until the diſorder is actually ſeated, and perhaps irrecoverable; but by ſuppuration and running off—and this is often attended with the loſs of a month's graſs, and one fourth of the value of the beaſt. Now I would ſuppoſe that, from ſuch experiments as this, people in general would, at proper times, uſe means to prevent ſo much pending loſs. At whatever time the beaſt is milked dry, particular notice ſhould be taken, whether her milk impairs gradually of itſelf, or that the beaſt is milked ſeldomer, in order to make her dry: if the latter is the caſe, ſhe ought to be bled once or twice in the courſe of a month; but, if the former, bleeding is unneceſſary at that time. The moſt particular, and critical time of doing ſervice, is, when the beaſt is put into better paſture, and expected to make ſome improvement from it; they ought to be bled, if the ſeaſon be favourable, about two weeks after being put to graſs, or ſooner, if there be no danger from cold. Bleeding, at this time, is meant to divert the whole of the juices of their aliment from the milk veſſels, which would, without the leaſt doubt, contribute as uſual to that part of the ſyſtem. A portion of ſuſtenance, which, if not by this means prevented, would, in all probability, lay the foundation of the diſorder previouſly alluded to; and a ſecond bleeding, in a ſmaller quantity, might be very neceſſary at ſome convenient ſeaſon, not exceeding three weeks from the firſt.—Bleeding, at this period, has a particular effect on contracting the milk veſſels, before much of that fluid have entered them; but if this neceſſary and uſeful operation be neglected, until they have abſorbed a conſiderable quantity into the udder, and there being no diſcharge as uſual, the matter coagulates and thickens, to a degree, that no repellents have power enough to throw it back into circulation: and, when the ſeaſon is hot, it immediately becomes crude, clotted and corrupt, and will burſt and run off of itſelf. But as ſoon as there is no probability but of its gathering to a rot, anoint it with hogs-lard; and draw or milk the pap or teat, which is neareſt the hardneſs: this ſhould be done frequently, and it will ripen the faſter.

AT the firſt and ſecond bleedings, or rather between them, ſhould be uſed as an ointment to rub the udder with, two or three times a-day, and as rubbing itſelf, without any ointment at all, is of particular ſervice, the perſon employed ſcarce need be afraid to overdo it.

TAKE	Syrup of Scurvy Graſs,	2 ounces
	Syrup of Lavender,	1 ounce
	Ointment of Dealthea,	1 ounce.

And whatever may be wanted of this, let the foregoing be the proportion, to be mixt up well, and laid on the lower parts of the udder, recollecting to rub it well in.

CATTLE, of different deſcriptions, are liable to this misfortune, but difference of circumſtances, more or leſs, vary the probability of their being viſited with it. It has been known that a heifer, who never had a calf or gave milk, has been ſubject to it: and alſo ſome cows that were milked regularly, but thoſe inſtances we may ſuppoſe rarely happen, and when they do, it is probable that taking blood might have prevented them in either caſe; and as there are ſcarce any of the cows which are grown, but may, when no method is uſed to prevent it, catch the diſeaſe; and as the preceding plan has been attended with a tolerable ſhare of ſucceſs, when duly adminiſtered, it may not be impracticable for any of that way to follow the example.

SNORES, or SNIVELS,

IS an impoſthume, or gathering of clotted thick matter, lodging in the griſtly part of the noſtrils; and, when it becomes large, it ſtops and impedes the breathing of the animal, inſomuch that it cauſes a ſnoring and ruttling in the head, that becomes very uneaſy. It is frequently miſtaken for a diſorder in the throat, or a ſtoppage in that part, which often induces people to give medicine that is of no ſervice to the beaſt, and at the ſame time neglecting, the real diſeaſe. It is moſt commonly occaſioned by colds, caught when the beaſt is in low condition and unable to throw off the large quantities of grumous matter, often the attendant or after-runner of ſevere colds, and the proper method of treatment is to bring them, as ſoon as poſſible, to a ſtate of ripeneſs, that it may ſuppurate and void the matter, by a gradual running, and for that purpoſe uſe the following method.

Take ointment of bayes, and with a ſyringe ſquirt up both the noſtrils, twice every day, until it ſhew ſymptoms of a diſcharge of white thick and clotted matter, making its eſcape at every exertion the beaſt makes with the head, then only apply the ointment once every day, or if that cannot be got, recourſe may be had to the flower of ſulphur, well mixt with ſweet oil or butter, and conveyed by means of two or three ſtrong gooſe quills, tied together; and the ointment, ſpread on the feathery parts, conveyed up the noſtrils; and, by twirling them round, they will leave it on the parts where it will be of ſervice. And, when it is once broke, and begins to run, there is no danger of its becoming totally cured by the means above pointed out, if the beaſt be not in a very low ſtate or condition.

ANGLE-BERRIES, OR WILDFIRE,

CAN ſcarcely be claſſed amongſt the liſt of diſorders that horned cattle are incident to; but may juſtly be termed one of nature's great preventatives of a much worſe conſequence. Whoever has a beaſt, with thoſe in abundance, may conclude the animal has eſcaped ſome diſorder, much more momentous than any uneaſineſs that may occur from this: ſuch as the megrims, frenzy, red-water and others. It will be needleſs to attempt an explanation of them here, as they are ſo well known, and ſo different in their degrees of ſize and ſhape;

only that they are a ſuperfluous ſubſtance, which ſometimes grow all over the different parts of the animal, but for the moſt part under the belly and about the udder; ariſing from tumours and the ſuperabundance of fluids forced upon the fluids, by an overplus of ſucculent food, which nature frequently throws off this way; but, when they promiſe to be very plentiful, means ſhould be uſed to ſtop their progreſs, leſt they ſhould injure the teats or paps. And ſometimes, when the weather is remarkably hot, ſwarms of maggots have been known to breed, and cauſe ſome danger and uneaſineſs; but, to prevent ſuch conſequences, they may be taken off before any injury take place. This may be done by throwing the animal down, and turning them out with the fingers, if they be not arrived at much growth; but, if they be large, blood ought to be let two or three days previous to their being taken off, or bound in ligatures, which is the moſt adviſeable plan; if grown to any conſiderable ſize, to take a ſharp ſtrong cord, or twine, and tie it round them on the neck, hard enough to hinder any circulation between the parts; and the overgrown part will drop off without any danger, and if there be any ſigns of their further appearance, oil of vitriol may be applied, which will be a preventative to their growing any more that ſeaſon. If they are only ſmall, and not likely to be numerous, it will be no harm to ſuffer them to grow without interruption: for, they will go away of themſelves, when the food begins to be leſs nutritious.

SCAB, OR SCURF,

IS a diſeaſe in the ſkin, which is very rarely found with cattle in high condition, and is one of the conſtant attendants of bad feeding, overheating, ſtarving, or other unnatural and injudicious uſage. It reſembles, in ſome degree, the itch in the human ſpecies; and requires nearly the ſame treatment, and if it be ſuffered to take deep root in the animal, the reſt of the herd is in imminent danger of being infected with it, and more eſpecially if low in condition.

SYMPTOMS.

SKIN ſtiff, and ſits faſt to every part of the carcaſe, as if too ſmall for the body. It makes its firſt appearance about the head and jaws of the animal, with a ſcurvy, pale, and dry texture; and the beaſt begins to claw and ſcratch againſt every thing that comes in its way; it then ſhews itſelf along the back, and behind the ſhoulders; and if timely aid be not procured, the animal will tear its ſkin till it bleeds violently, which ought to be prevented, if poſſible, as the ſcabs which are the conſequence of bleeding, much retard the efficacy of the ointment, and the loſs of time confirms the diſorder.

REMEDY.

FIRST let blood, according to the ſize and ſtrength of the beaſt, then prepare the following ointment.

To Ointment of Dealthea,	1 ounce
Add Flower of Sulphur,	3 ounces,

Mixed with fine rendered hogs-lard, until it be of proper conſiſtency for anointing the ſkin, then card or curry well the beaſt before you lay it on, which will raiſe the ſcurf and hair, that the ointment will ſooner come to the parts affected; and to be rubbed well in, twice in twenty-four hours: this will be a remedy, if the ſubject be not far advanced in the diſeaſe; but if it have not the deſired effect, the firſt dreſſing, repeat it, and give the following medicine inwardly.

Powder of Gentian Root,	1 ounce
Bay Berries,	2 ounces
Peruvian Bark,	½ ounce
Myrrh,	½ ounce,

With half a pound of molaſſes mixt and boiled in one quart of ſtrong beer for one doſe.—This internal medicine may be given at firſt, if thought neceſſary; which entirely depends how far the infection has made its progreſs.—Its food ought to be good, and not dealt ſparingly. This will have a great tendency to baniſh the dregs of poverty from the ſyſtem, which is often the foundation of the diſeaſe.

OINTMENT FOR DESTROYING LICE.

TAKE finely powdered cayan-pepper, or ſtaves-acre, and mix with hogs-lard. Rub it well on the back, and places where they are, which will deſtroy them if properly applied.

YOUNG cattle are very ſubject to lice, if they have been hardly dealt with in winter, by being turned out in cold and ſevere weather, without food ſufficient to ſupport the frame in good condition.

SOME people get a quantity of mercury, and mix it themſelves for the above purpoſe; but I would earneſtly recommend, that this dangerous medicine may not be attempted in this way. It has been often attended with ill conſequences, and even coſt the animal its life. The above will effect a cure with ſafety, and cattle will generally get rid of it themſelves when put to good graſs.

OINTMENT FOR SORE TEATS, OR PAPS.

THERE are ſome cows very much addicted to ſore teats, which are very troubleſome to the animal when milked, and often blood, which invites the flies, who become a very great nuiſance, and if the teats be not duly treated, in time, they often rot, which is found very diſagreeable; but, with a ſmall degree of care and attention, much trouble may be ſaved.

TAKE oil of bitter almonds, and lay a little upon the teats, before beginning to milk, and anoint them well after, and if it was convenient once in the middle of the day, if the caſe require it, and if the flies follow them very much, add a little train oil, which will diſband them totally. This, with care and perſeverance, will be found to have good effects.

ON COWS CALVING BEFORE THE EXPIRATION OF NINE MONTHS, COMMONLY CALLED CASTING OR SLIPPING THE CALF, &C.

THIS misfortune has met with few profeſſors who have attempted to account for its origin and cauſes, and yet, in ſome inſtances, it ſeems ſelf-evident. It is well known, that great loſſes have been ſuſtained, whenever this became general in a herd of black-cattle, which were with calve. It may originate in violent exerciſe, or abuſe; from leaping hedges and ditches; from a foul nauſeous ſmell, or ardent deſire, commonly called longing; from ſudden frights, knocks or bruiſes; and, it often takes place, where there is no reaſon to ſuſpect any of the above cauſes. But it will be the moſt preferable mode, at all times, to keep thoſe who have ſlipped the calf, and the reſt of the cattle, as free from having any communication with each other as poſſible, leſt it ſhould become infectious: and, without great care and management, it may go through the whole ſtock that are expoſed to it. Experience has ſhewn that great danger may be apprehended; it will pay you a viſit the next ſeaſon, and do likewiſe, if you keep the ſame cattle. Then whenever this accident happens, or is likely to be the caſe (as they generally prepare a little for the event, between the cauſe and calving take place) they ſhould be immediately removed, to a ſtall, where they have no communication or intercourſe with the reſt of the herd; quite diſtant from any that may come under the ſame predicament, keeping them as cleanly and quiet as poſſible. And when the beaſt has dropped the calf, it may be rationally ſuppoſed that the want of maturity, in every part and function concerned for the nutriment of the young, will be the occaſion of ſome unuſual occurrence in the ſyſtem of the animal, where it ſtill happens, to a greater or leſs degree, in what is known by the name of *placenta*, *after-burthen*, *cleaning*, or *vecundines*, which nature provides, for the purpoſe of conveying nouriſhment, from the mother to the *fœtus in utero*, or young in the womb.

This *placenta*, &c. is grown faſt to ſome part of the womb or uterus, and, from the untimely birth, is not prepared to leave the ſtation where nature placed it, for a longer time; therefore, when the chief object of its functions has eſcaped, the nutriment and its veſſels corrupt in the womb or uterus, which cauſes a diſagreeable and nauſeous ſmell; and, when it is communicated to the reſt of the cattle with calve, it is no wonder that ſome malady take place, and particularly this one under conſideration, when it is frequently confirmed that diſagreeable ſmells may be productive of this misfortune; but, for the moſt effectual method of removing the cauſes of obſtruction, to throwing off the placenta, &c. uſe the following medicine, called a cleanſing drink.

Take	Juniper Berries,	2 ounces
	Bay Berries,	1 ounce
	Gentian Root,	1 ounce
	Sal Ammoniac,	1 ounce

Salt Petre,	2 ounces
Myrrh,	½ ounce
Cream of Tartar,	½ ounce.

This to be boiled in one quart of good ſtrong beer, and given for one doſe.

It will be abſolutely neceſſary, in ſome part of this treatiſe, to enforce a friendly injunction on every one of thoſe who have black-cattle under their care, that every degree of cleanlineſs is neceſſary, with reſpect to fodder and houſing, that can be uſed in any other domeſtic affairs; and whoever ſwerves from this natural and neceſſary duty, needs not complain, if his filthineſs and ſluggardly diſpoſition prove the means of very conſiderable loſſes. It is well known that this animal has a very quick perception of ſmelling, and will ſhun, if poſſible, every thing that offends its delicacy of taſte: therefore, I would earneſtly recommend to thoſe who may have cattle, ſubjected to caſting the calf, not to offer the prevention of the others, by putting tar or burned feathers in their ſtalls, in order to keep off a ſtronger ſmell, or effluvia, that might iſſue from diſordered cattle; but to uſe the means before recommended, by a total ſeparation, if it can be effected.

The medicine above deſcribed, has been found of infinite ſervice. When cattle do not void or get rid of the cleaning ſoon after calving, this will be found greatly to forward its diſcharge, and ſcour away any extraneous matter, which the change has cauſed in the ſyſtem.

Letting blood has been thought a preventative, when adminiſtered two or three times, even after they ſhewed ſymptoms of calving prematurely.

HOW TO EXTRACT A CALF, WHEN IT PRESENTS ITSELF IN A WRONG POSITION.

ALMOST every perſon, who has any thing to do with black-cattle, knows in what manner a calf ought to make its firſt appearance out of the womb or uterus, when its dam is in the act of parting with it; yet it may be worth notice that the right poſition is, with its fore-feet and head firſt, its back towards the cow's back, and the fore-feet oppoſite to each other on the ſides of the head: and, if it appear in any other way, it may be deemed to be ſeated wrong in the womb or uterus, the reaſon of which perhaps cannot be eaſily accounted for; but that is of trivial conſequence, compared to ſetting it right again, when it is found out of its natural way, and requires to be immediately delivered.

It has been learned, from ocular demonſtration, that calves preſent themſelves in a variety of different poſtures; and, if any ſervice can be rendered by experience, it will be proper to begin with the moſt ſimple, and then proceed as practice has warranted ſufficient for example.

In the firſt caſe, if the calf appear in its due poſition, in every reſpect, except one foot left behind, this will with great eaſe be put to its proper place. This is much more adviſeable than attempting to extract it, the way it was preſented. And if both feet be left behind, and there be nothing diſcoverable but the head, they muſt be ſought for, and placed properly, before any effort be tried to relieve the cow of her burthen. Alſo, if all the four feet are where the back ought to have been, it will be doing materially wrong to encourage, or expect any means to be of ſervice, until the calf's back be turned the way of its dam, when it may be attempted with ſucceſs, which ever end may be moſt conveniently come at; but when there is a neceſſity of turning a calf wholly in the womb or uterus, care muſt be taken that the beaſt be in a favourable ſituation and poſition, raiſing her hind parts, which will greatly relieve the creature, when the calf may be placed in a right poſition. Alſo it ſometimes occurs that the hind parts firſt make their appearance; but this inſtance rarely happens, and, if the calf be right in every particular but this, it will be better to attempt a delivery, than to change the ends of it. Sometimes a ſhoulder or other parts may preſent themſelves to the mouth of the womb or uterus; and, in a caſe like this, it is more intricate than any of the foregoing ones, and much depends upon the operator's judgment, in finding which end of the calf may be brought forward with greateſt advantage and eaſe to the patient; when great care ſhould be taken to chooſe the ſituation and poſition favourable to the beaſt, in both operations; and to uſe every poſſible ſafe means, when the creature favours the labour herſelf.

There have alſo been circumſtances known, of the calf having a dropſical complaint in its head, that cauſed an unuſual largeneſs or ſwelling; and more than uſual exertion is required to extract it, then a cord may be made faſt to the under or upper jaws of the calf, by a nooſe or other means, and exertion uſed only when the animal favours the labour herſelf, &c.

When this method ſeems to fail of ſucceſs, or if the calf be dead, it may be cut away from the womb with a knife; but it requires a perſon of great judgment and care to perform the taſk: for, when an operation of this deſcription is neceſſary, there is more required from the operator than in many other caſes, and any inſtructions, otherwiſe than knowledge gained by experience, will fall greatly ſhort of what, upon various occaſions, may be required.

THERE is alſo another very material obſtruction, which frequently happens to the calving of black-cattle. It is called a horning of the lye or calf-bed, when the paſſage of it is contracted into a very ſmall circumference, inſomuch that, at the full time of geſtation, it will not admit ſo much as the ſmalleſt hand, and grows ſo ſinewy, or horned, as renders it utterly impoſſible for the cow to calve without aſſiſtance, and many cattle have died under this dreadful inconvenience, when it might have been eaſily prevented; but ſo little has been known hitherto of the diſeaſes peculiar to black-cattle, that many thouſands have fallen victims to untimely death, that a ſimple remedy or operation might have ſaved.

IN the caſe, before obſerved, it muſt take a conſiderable length of time, before it is contracted, as it is often found; but no ſuſpicion or dread can reaſonably take place, until near the time when the beaſt has arrived at the end of nine months, her full time of bearing young: when they generally make a regular preparation or falling, of the parts of generation, for a few days or weeks before calving; but in caſes of this hornedneſs of the calf-bed, it is obſerved they are backward in making thoſe neceſſary alterations, preparatory to the approaching change; and, when this is noticed, more than uſual obſervation ought to be taken, for when they do not prepare, in a regular manner, they ſeldom have the efforts of nature, in due courſe, for the delivery of their burthen.—But when the beaſt is obſerved ſick for calving, and has reached the end of her time, and any dread of this apprehended, there is no danger or impropriety, in ſearching with the hand, in order to be ſatisfied, whether that part is open, or grown up, as previouſly deſcribed; yet the greateſt care is neceſſary, that the enquiry be made with judgment, and the hand that is introduced muſt be well lathered with ſoap and water, tallow or freſh butter, or ſome ſuch like thing, that will not cauſe irritation in the neck of the womb.

Now if it be found in the ſtate deſcribed, in any degree, and a certainty of the beaſt being at its full time, with the common ſickneſs, and ſymptoms for calving; no time ſhould be loſt until the animal be relieved. The difficulty greatly depends on knowing to what degree it is grown up, it is ſometimes ſo ſtrait as not to admit the end of a finger, but with ſome exertion it may give ſo much way as a ſmall knife may be introduced, whoſe blade ſhould not be above one inch and a half in length, and very ſharp, with a hollow on the back part of the point, for the end of the foremoſt finger to guide the knife when cutting, and to cover the point and edge, when introduced, which muſt be covered as much as poſſible with the hand, its handle ought to be ſhort, and the foremoſt finger of the operator ſhould always be kept forward on the knife, to prevent any danger from the edge of the inſtrument. The horny circle is ſometimes ſo hard and griſtly, that it takes more exertion than may have been expected from the nature of the place; but as ſoon as it is cut through, the beaſt will find a very material difference, and ſtrive to void her burthen if poſſible, when every exertion of art ought to be uſed towards her relief. Many people have ſuffered the beaſt, ſo diſordered, to die a miſerable death before their eyes, without offering to render her any aſſiſtance, and ſome have attempted to take the calf out at the ſide of the animal, a practice commonly known by the name of the Ceſarian operation; but the other method is much more preferable, when hornedneſs is the occaſion of obſtruction. But operations of this kind in general fail, from neglecting the attempt, until all rational hopes are gone, and the patient ſo weakened and fatigued, as to die under the hands of the perſon who has undertaken the taſk; therefore, it is recommended that no time be loſt in learning the cauſe of any delay in calving, and that every exertion be uſed, while the animal has ſtrength to undergo the operation, and give aid to the attempt. And, when the buſineſs is happily over, the parts within that are wounded muſt be taken care of, by providing one pint of rectified ſpirits of wine camphorated; to bathe or anoint the wound, and any other parts that may have been expoſed to the air, bruiſed, or over-diſtended. This may be conveyed up the neck of the womb, by a ſyringe or ſquirt, a ſpunge or linen rag filled with it, and carried thither by a ſmall hand, well fomented with ſome of the foregoing articles for that purpoſe. And keep the beaſt in a moderately warm and comfortable ſituation, allowing her at all times a plentiful ſupply of good, dry and ſweet litter, and then prepare the following medicine, to give as ſoon as the calf is extracted, and the wound and other parts are well bathed.

TAKE	Aniſeeds,	2 ounces
	Juniper Berries,	2 ounces
	Bay Berries,	1 ounce
	Powder of Gentian Root,	1 ounce
	Molaſſes,	$\frac{1}{2}$ pound,

Given in three pints of good houſehold beer for one doſe, and let the beaſt reſt eight or ten hours before any thing more be done; then give a maſh of malt or bran ſcalded, taking care to keep it warm and dry: and, if the former ingredients have been got in time, and adminiſtered judiciouſly, it will need no more, as it chiefly depends on the firſt effort, for doing any material ſervice. And when the beaſt can riſe to eat, ſhe may be offered a little hay or graſs, as the ſeaſon affords.

THE FALLING DOWN OF THE CALF-BED.

THIS is moſt common after a laborious birth, or when the calf has been taken away by more than uſual exertion: alſo there are cows whoſe make and conſtruction favour thoſe weakneſſes naturally; but, when this laſt caſe is obſerved, care ſhould be taken to alter their ſtalls (when grown heavy with calf) in ſuch a manner as will favour their lying, and prevent that over-great weight, which otherwiſe will relax and diſtreſs thoſe generative parts that are always giving way to circumſtances, which nature or ſituation ſeem to demand.

THE caſe of a laborious birth, or much fatigue, is more ſerious and dangerous than the other; for, when the beaſt has been much ſtrained by parting with her calf, pain and uneaſineſs ſucceed in the womb or uterus, inſomuch that the relaxation has deprived the beaſt of her powers, or that the violence of pain prompts her to attempt quitting it, as ſhe did the pains of labour; and, when this latter is the caſe, ſhe throws out voluntarily every thing that gives her pain or diſtreſs.

If there are any ſymptoms of this deſcription about the beaſt, a conſtant watch ought to be ſet to prevent, if poſſible, the dangerous conſequences that might enſue from inflammation and cold, or the leaſt extraneous or dirty ſubſtance, will prevent its ſtaying in its proper place, if ever ſo judiciouſly placed.

If the calf-bed come down, and proper aſſiſtance cannot be procured immediately, it may be laid on a clean linen ſheet, and covered with the ſame, as the irritation of the cloth will be much leſs dangerous than the air, or other diſagreeable things, ſuch as litter or dirt of any kind. And, when it is put back to its proper place, all the parts that have been expoſed to the air or cold, ſhould be well bathed with rum, brandy, or ſpirits of wine mixt with new milk, which will prevent any inflammation taking place. And, when the perſon begins to put it in its proper ſeat, the placenta or cleaning ſhould be taken away, if it can be got without bleeding, and the calf-bed lifted up to the place; and the operator muſt double or clench his hand, and put it to the middle part of the bed or lye, then gently thruſting it into its place; and, when it is up, the hand ſhould not be withdrawn until it begin to feel warm, and the natural motions of placing itſelf in the poſition it ought to be in, begin to take place; then the hand may be moderately drawn back again, and particular care taken to watch the animal until any danger be over, then apply the following medicine.

TAKE	Aniſeeds,	2 ounces
	Juniper Berries,	2 ounces
	Bay Berries,	1 ounce
	Coriander ſeeds,	1 ounce
	Powder of Gentian Root,	1 ounce
	Molaſſes,	$\frac{1}{2}$ pound.

Theſe to be given in three pints of good houſehold beer, and the beaſt may be led gently down a hill, which will be greatly advantageous to placing the calf-bed right.

WHEN thoſe means fall ſhort of effecting the wiſhed for good purpoſes, recourſe may be had to making a ſtay, to put behind the womb of the cow, to prevent its falling down, and ſome have adviſed the ſewing it up, with a wax or pitched thread, until it would ſtay of itſelf; but it would be much better if it could be done without this laſt method.

MURRAIN OR GARGLE, COMMONLY CALLED THE PESTILENTIAL FEVER, OR HYANSTRIKING.

THIS diſtemper has been the moſt fatal to black-cattle, of any that ever was known; not only upon the Continent, but in Great Britain and her Iſlands, and ſcarce any country eſcapes this dreadful calamity, at ſome time or other.

THE difference of climate and ſeaſons, make a very material change in the ſymptoms and progreſs of this peſtilential diſeaſe; and we are ſo happily ſurrounded by ſea, and our lands in ſuch high cultivation, that we do not ſtand ſo ſeverely expoſed to its ravages as many other parts of the world.

ITS cauſes have hitherto been attributed to originate, either directly or indirectly, from the ſtate of the air: as it has been obſerved to take its riſe, and rage moſt, where there was any long continued ſameneſs in the atmoſphere; ſuch as long thick fogs, unwholeſome dews, hot ſultry winds, or a great drought, the ſeaſon chill and rainy for any length of time; or any other extreme that tends to change the nature of their aliment, or the ſtate of their bodies to any great degree. It does not appear at all times alike, but is entirely guided by circumſtances peculiar to ſituations and ſeaſons; it has been moſt frequently the caſe in England, that cattle, in the higheſt condition, were firſt ſeized, and moſt ſeverely held in the diſorder: therefore, it was conjectured that thoſe whoſe blood was richeſt, were moſt ſubject to the diſeaſe, which confirms it to be of the putrid kind.

SYMPTOMS

OF this diſtemper are not uniformly the ſame in this country, on account of different parts of the animal being affected; which is ſuppoſed to be from the habit of body, and the diſpoſition of parts. Sometimes they are attacked internally, and before any external ſymptoms appear, they may be paſt all the efforts of medicinal aid; but the moſt general ſymptoms are a ſwelling about the roots of the tongue and gullet in the inſide, and the ſwelled parts ſoon become blackiſh or yellow, which require to be cut away immediately; alſo about that part, on the outſide, frequently riſes with a hard ſwelling, which muſt be cut and ſcarified; and, when it is expoſed to the air, moſt probably it will turn black, then whatever part of it ſhews ſuch diſpoſition, muſt be totally cut away, and the wound filled with ſalt-petre to make it ſuppurate, and prevent a mortification. The beaſt will, moſtly after its firſt attack, ſhew ſymptoms of uneaſineſs about the throat, by holding out its head, and ſhaking its ears, finding a difficulty in ſwallowing any thing, it may take by way of food, and, in a very few days, be deprived of eating any at all.

REMEDY.

AS ſoon as there is any ſuſpicion of the beaſt being infected, bleeding plentifully is neceſſary; and if the ſtate of the air be unwholeſome, they ſhould be kept in a moderately warm houſe, and not expoſed to its putrid qualities. The ſtall ſhould be ſtrongly ſcented, by rubbing upon the ſtones or timber, tar and aſafœtida, whoſe ſmell and effluvia will prevent the tainted air from falling upon the lungs of the animal.

As ſoon as any ſwelling is perceived externally, on whatever part of the beaſt, it muſt be ſcarified; and all the black or yellowiſh ſubſtances muſt be cut away, and the place filled with ſalt-petre, which will cauſe a ſuppuration, and running of matter, that will relieve the over-loaded veſſels in the neighbourhood of the diſordered parts: then a ſtrong waſh of ſalt and water muſt be prepared, made lukewarm, to bathe the wound and parts adjacent, which will, in part, ſtop that putrid affection that was hurrying to the ſeat of the diſeaſe; for without a ſpeedy diſcharge from the diſorder, all hopes of recovery will very ſoon be over. When the operator is performing his part of the taſk, about the outſide, or glandular part of the throat, he muſt take great care where he has the windpipe, leſt he ſhould terminate, by an accident, the exiſtence of the animal; and, when the wound is properly dreſſed, be careful to keep it clean, then prepare the following medicine.

TAKE	Powder of Gentian Root,	2 ounces
	Powder of Bay Berries,	1 ounce
	Turmeric,	1 ounce
	Venice Treacle,	1 ounce
	Cream of Tartar,	1 ounce
	Soft Sugar	¼ pound.

Theſe to be boiled in three pints of good houſehold beer, and given for one doſe.

IF the contagion becomes general, in any part of the country, it will be found neceſſary to prevent its ſpreading as much as poſſible, by putting the cattle into ſuch ſituation and condition, as the diſtemper may not affect them ſo ſeverely.—If any apprehenſions of its appearance ariſe, the cattle ſhould be bled plentifully, and their food ſhould be of ſuch a nature as neither to make them lax nor coſtive. It ſhould conſiſt of maſhes, ſuch as malt, bran, or other grain, ground, or bruiſed; and plenty of good ſoft water; their diet ought to be rather ſparingly given, and all their liquids taſted with ſalt or vinegar. They ſhould not be ſuffered to graze much in the fields; alſo the ſtalls or houſes, and the griſtles of their noſes ought to be well rubbed with tar and aſafœtida, as before recommended. Be particularly careful, if any ſhould die in the diſorder, that they be buried ſo deep as no dogs ſhall get to the carrion, or the country may be ſoon infected by that means;—and, if the body be not ſufficiently lax, give the following doſe, at any time, by way of preventative.

TAKE	Epſom Salts,	3 ounces
	Glauber Salts,	2 ounces
	Salt-petre,	2 ounces,

Boiled in one quart of water, and given for one doſe.

THE END.

APPENDIX.

IT is related by Lanciſi, a famous Italian phyſician, that between the ſecond of Auguſt 1713, and April 1714, there died, of this fatal diſorder,* thirty thouſand black-cattle and buffaloes in the eccleſiaſtical ſtates of Rome; it alſo raged with great violence about that time in Germany, Bohemia, Hungary, and Lithuania, with heavy loſſes to the inhabitants of thoſe ſtates; and about 1730-1 it made its appearance in France and Denmark, where it made great havock for ſome years, and about the year 1744, it was ſaid to be brought by ſome traders into Eſſex, who had bought calves in Holland, or ſome other of the low country provinces, which had the infection, and ſpread the contagion through ſeveral counties, until it became a matter of conſequence to the ſtate, inſomuch that

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* The Murrain, or Gargle.

on the 13th of February 1745, an Act of Parliament was paſſed, that every probable or poſſible means ſhould be uſed, by officers appointed for the purpoſe, of preventing its ſpreading further. Premiums were given to thoſe who killed their cattle ſo ſoon as the infection made its appearance: alſo fines were impoſed upon every one who acted contrary to the then eſtabliſhed laws, reſpecting driving, expoſing, or ſelling cattle ſuppoſed or found caught with the diſorder. However, every precaution which could be ſuggeſted at that time, proved ineffectual; and his Majeſty in council iſſued out freſh orders and regulations, but they were attended with very little ſucceſs, for ſome length of time.

It became ſo alarming to the country, in general, that many eminent men in the profeſſion of Phyſic, in different parts of England, engaged cloſely in the ſtudy of remedying this calamitous diſtemper; but differed widely in their ſentiments, whether it was of the infectious kind of diſeaſe, or from a malignancy originating in the ſtate of the air, or ſome peculiarity in the nature of their aliment. However, the bickering and contradictory ſpirit which prevailed amongſt them, nearly ſilenced ſome of the ableſt profeſſional men from appearing in behalf of the public; eſpecially a Dr. Barker, who wrote an ingenious pamphlet on the ſubject, and whoſe method proved more ſucceſsful than many others, whoſe pretenſions were more ſtrenuouſly palmed upon the public.

From the hiſtory of the diſorder, in general, it appears to differ in its ſymptoms and effects, according to the different parts or ſeaſons, as explained by many who wrote on the ſubject, at the time when its ravages were ſo ſeverely felt in England and Ireland.

There is not the leaſt doubt but the diſtemper is infectious, and may enter the ſyſtem, either by inſpiration or abſorption, therefore, whatever method could be adopted for the prevention or extermination of ſo dreadful a contagion, on its firſt appearance, would be doing an eſſential ſervice to the country where it threatened to make its ravages.

At the two different periods, when it laſt viſited England, its ſpreading was much owing to the careleſſneſs of thoſe whoſe cattle were firſt ſeized, and if the ſtate had interfered at that time, with a proper execution of their authority, the many ills which they ſuffered by it, might in all probability have been averted. To cut down a whole herd, and bury them deep upon the ſpot, and not to ſuffer one beaſt, of any kind, to come upon the ground for the ſpace of one whole year, would be a trivial expence to the public, compared with the loſſes which have been ſuſtained, and moſtly by ignorance, ſtupidity, or the knavery of that deſcription of dealers who would ſacrifice every principle of honour, and the good of their country, to a trivial moiety of gain.

England and her iſlands are in ſuch high cultivation, and ſo happily ſurrounded with wholeſome ſea breezes, that it is rarely to be expected any extremity in the ſeaſons ſhould contaminate the air, or their aliment, ſo as to favour or occaſion any ſuch contagion amongſt the cattle.

It is univerſally allowed, that much depends on the nature of the ſeaſon, and condition of the animal, for the rapidity of its ſpreading. If it ſhould be brought into this country in the winter ſeaſon and be paid little reſpect to, or thought of trivial conſequence, until the weather became hot, or a ſcarcity of water, or a long continuance of eaſterly winds, it might be very difficult to overcome, when on its firſt appearance, very little exertion might have ſuppreſſed the infection totally.

Upon the Continent, they are much more expoſed to its fury than we, owing to their large tracts of land, producing a greater ſameneſs in the air, where the current carries the infection to a great diſtance, without the interference of purer air.

Hides, or different kinds of traffic, have frequently ſpread the contagion; alſo, leaving any part of the carcaſe of the dead beaſts expoſed, or in the way of dogs, or other carniverous animals, is very dangerous to the neighbourhood where it may be.

From the ſtricteſt remarks, on practical experience, it has been found very difficult to meet with any general plan, to be a ſtandard of treatment, under ſuch a variety of ſituations and circumſtances as the contagion preſents itſelf to us.

The learned have agreed that elevated places, warm houſes, where the air can be hindered from penetrating on that ſide, the current falls, fumigations with ſmoke of wood, weeds, turf, or vinegar, thrown on live coals, keeping clean their ſtalls, and ſcenting them with tar, aſafœtida, or any other ſtrong wholeſome ſmell, that will tend to deſtroy the infectious effluvia, a more plentiful blood-letting is neceſſary on or before the attack, than in moſt diſorders, waſhing their ſkin all over well, with ſoap and water, the chilneſs juſt taken off; then rubbed perfectly dry, and a continuation of rubbing, bruſhing, and currying to keep the ſkin clean all over the body, and when this is done, cover the beaſt with warm dry clothing, which will create a briſk perſpiration, and throw off matter, that would otherwiſe have quickly advanced the putrid ſtate of the blood, but by quick motion, and evacuations in every part of the ſyſtem, the fury of the diſtemper may be conſiderably abated.

THEIR aliment ſhould be maſhes of bran, gruel made of barley or rye flour, ſeaſoned with a little common ſalt, vinegar, or oil of vitriol, reduced to the conſiſtency of a common acid. They may have a little hay or graſs, to keep the firſt ſtomach in its proper ſphere of ruminating or chewing the cud, and at the ſame time take care the animal have great plenty of good ſoft water; but as ſoon as ever the creature gives over chewing the cud, hay and graſs muſt be given up, and give the maſhes and gruel, as before recommended.

PURGING to an extreme is dangerous, ſo is coſtiveneſs alſo; therefore, a medium ought to be preferred, which may be the beſt regulated, by paying an early attention to their diet.

WHEN a cow that gives milk, or has given of late, is infected, particular care ſhould be taken to draw from her all the milk or matter which could be got from her udder. Waſhing the roots of the tongue and mouth well with ſalt and water, is of material benefit, and taking particular notice whether there be any blotches, tubercles, or ſwelling, about that part, either internally or externally, where the immediate cutting away, or ſcarifying, muſt be performed (according to Mr. Rowlin's Plan in the Treatiſe) and a ſuppuration brought on by ſalt-petre, &c.

The Author was called upon to attend herds of cattle, travelling into the Southern counties, when this epidemical diſtemper raged in this country, which gave him an opportunity of making obſervations in different parts, and from his accounts, there was a diſſimilarity, in the general ſymptoms, of that which ſpread about 1745, and that which raged in 1765, &c. in the firſt, blotches, ariſing all over the body, were the moſt common external ſymptom accompanied with a cough and hooſing. In the latter, its firſt appearance was more in the roots of the tongue, or glandular parts of the throat—yet in both caſes, ſpeedy evacuations were the moſt ſuccefsful, by unloading the ſyſtem of groſsneſs, and gently keeping the body open, without any extreme, were found the moſt adviſeable.

The following extracts, collected by the Editor, from the beſt authorities at thoſe times, being found, by experience, the moſt ſucceſsful and approved methods of treatment, in different parts of the country, when the *murrain* ſpread its ravages in England, &c. anno 1744 to 1750, and alſo from 1765 to 1770. At thoſe times the recipes and cures were very numerous, and aſſiduouſly offered to the public, and many of them recommended only by their inventors; but at a time of general diſtreſs, people often become credulous, and are led away by the moſt unſyſtematic jargon that can be palmed upon the ſenſes of individuals.

A learned and judicious Phyſician of Huntington (P. Layard, M. D. and F. R. S.) has given the moſt rational account of the diſtemper, (and its cure or prevention) of any who wrote on the ſubject at that time, and may be found worthy notice of the public, if at any future period that calamitous diſtemper ſhould invade the territories of Great Britain, or any other part of the Northern climes.

A SHORT ACCOUNT OF THE MURRAIN, OR WHAT IS VULGARLY CALLED HYANSTRIKING, AND IS ALSO KNOWN BY SEVERAL OTHER NAMES.

THIS diſtemper very often begins with an emphyſema, or a flatulent, crackling ſwelling, attended with a mortifying blackneſs.

THIS ſwelling will alarm you with a crackling noiſe, when touched, and the part becomes inſenſible; it ſometimes begins in the mouth, other times in the head, back, abdomen, legs, or any other part of the body.

The emphyſema ſometimes does not appear till the laſt ſtage of the diſeaſe.

This diſeaſe appears to me, to be a moſt acute and violent fever, attended with a particular contagion, and this is after ſometime accompanied with a peripneumony and inflammation of the ſtomach and inteſtines: the peripneumony ſeems to be produced by the preceding high fever. There is an abſolute neceſſity of large and repeated bleedings in the beginning of the diſeaſe. Plentiful bleeding, immediately upon the beaſt being ſeized, is of great advantage; but if it be deferred only a few hours, bleeding rather oppreſſes the beaſt than alleviates the ſymptoms.

The quantity of blood to be taken away, ſhould be always determined by the ſtrength of the fever and the violence of its ſymptoms. From a large cow take ſix or ſeven quarts of blood, at proper intervals, and give her as much bran-water as ſhe chooſes to drink; it ſhould be made a little tart or ſouriſh, either with common vinegar, or ſpirit of vitriol, and immediately after the firſt bleeding, the beaſt ſhould have the following medicines.

Take

Take	Camphor,	3 drams
	Honey,	2 ounces
	Nitre in Powder,	½ ounce
	Venice Treacle,	½ ounce.

Mix theſe in three pints of water or beer, and give it immediately after each bleeding.

During the whole diſeaſe the utmoſt care imaginable muſt be uſed to keep the beaſt warm. Unleſs ſpecial regard be paid to this circumſtance, no medicines will be found efficacious enough to remove the diſeaſe; therefore, all holes in the cow-houſe ought to be ſtopped, to prevent the current of air through ſuch places; likewiſe every nine or ten hours may be given the following drench, viz.

Take Valerian Root,
Virginian Snake Root, of each 3 ounces bruiſed; add good beer, five pints; boil it over a ſlow fire for near half an hour, then ſtrain off the decoction; and laſtly, add vinegar, five or ſix table-ſpoonfuls; venice treacle; of each half an ounce. Mix when lukewarm, let the whole be given, it may be given every nine or ten hours, or occaſionally.

N. B. It is a matter of the greateſt importance to manage the emphyſema, or crackling ſwelling, for on the proper management of it, depends almoſt the whole cure.

First foment round the ſides of the emphyſema with oil vitriol, oil terebinth, vinegar. Take equal parts of each, except oil of vitriol: of this laſt take as much as will juſt render it ſharp enough for external uſe. This hot application is in order to ſupprefs the rapid progreſs of the morbid, till proper endeavours are made to extirpate the morbifick matter. In ſhort, the chief part of the management conſiſts in clearing the mortifying ſubſtance. Take a ſharp knife, and make a longitudinal inciſion, the whole length of the emphyſema, and then amputate all the livid ſubſtance, till the communication of living and dead fleſh is totally ſeparated; when the mortified matter is wholly cut away, the ſound parts will bleed freely, which will be a good ſymptom. After bleeding a moderate quantity, it will be neceſſary to ſtop the bleeding, which may be done with an actual cautery, if the part will admit of it.

> Dress the wound afterwards with oil terebinth, ſpirit of ſal ammoniac, of each 1 ounce, honey ½ ounce mixt. Fill the wound with pledgets of tow.

The next dreſſing, the wound ought to be well dreſſed with a decoction made of warm aromatic plants, ſuch as wormwood, tanſy, camomile, and ſuch like, with ſpirit of wine camphorated, and ſpirit of ſal ammoniac in it, in order, if poſſible, to make the wound digeſt; by which the ſlough will ſeparate; after this the ulcer may be treated as one from an ordinary abſceſs.

N. B. WHEN this evil begins in the mouth, the ſymptoms are evident, by the mouth being generally open, and a matter falling therefrom; by opening the mouth you will find upon one or both ſides of the tongue, a large blackiſh coloured ſubſtance, which will eaſily yield to the preſſure of your finger,

THE METHOD OF TREATMENT.

FIRST, Gag the cow—Second, provide yourſelf with a ſharp knife, and totally extirpate all the diſcoloured fleſh from the ſound ſubſtance, which may be done at one cut, by giving your knife a ſuitable turn, according to its ſituation: if the wound bleed freely, do not be too haſty in ſtopping the flux of of blood.

DRESS the wound with Ægyptiacum ½ ounce, ſpirit of wine camphorated, oil vitriol, and a little honey; let the wound be dreſſed three or four times a-day, till the diſcharge thereof be of a good kind.

Topham's Treatiſe on Cattle, page 169.

THE learned and judicious Peter Layard of Huntington, M. D. and F. R. S. whoſe reſidence in the country, joined to his univerſal humanity, neceſſarily afforded him frequent opportunities to remark the beginning and progreſs of the contagious diſtemper, which prevailed among the horned cattle in this kingdom a few years ago, particularly from about the year 1765 to 1770; being then applied to by government for his advice, gave the following as the reſult of many carefully repeated obſervations he had made on that melancholy occaſion.

SYMPTOMS.

"THE firſt appearance of this infection, is a decreaſe of appetite; a poking out of the neck, implying ſome difficulty of deglutition; a ſhaking of the head, as if the ears were tickled; a hanging down of the ears, and deafneſs; a dulneſs of the eyes, and a moving to and fro, in a conſtant uneaſineſs. All theſe ſigns, except the laſt, increaſe till the fourth day: then enſue a ſtupidity and unwillingneſs to move, great debility, a total loſs of appetite, a running at the eyes and noſe, ſometimes ſickneſs and throwing up of bile, a huſky cough and ſhivering. The fever, which was continual the three firſt days, now riſes and increaſes towards the evening; the pulſe is all along quick, contracted and uneven. A conſtant diarrhœa, or ſcouring of fætid green fæces, a ſtinking breath, a nauſeous ſteam from the ſkin, infect the air in which the morbid creatures are placed. Their blood is very florid, hot and frothy: their urine is high coloured: the roof of the mouth and the barbs are ulcerated. Tumours, or boils, are to be felt under the fleſhy membrane of the ſkin; and eruptions appear all along their limbs, and about their bags. If a new milk-cow is thus ill, her milk dries up gradually, her purging is more violent, and on the fourth day ſhe is commonly dry. There is ſuch ſharpneſs in the dung of the diſeaſed, that a viſible irritation is obſerved, during ſome time, in their fundament. They groan much, and are worſe in the evening, and moſtly when they lie down. Theſe ſymptoms continue increaſing till the ſeventh day, on which, generally, though ſometimes protracted till the ninth, the criſis, or turn, takes place.

“ BULLS and oxen are not ſo violently attacked as cows and calves; and of theſe cows with calve, and weakly cow-calves, are in the greateſt danger.

“ IF a cow with calf, at the critical time of this diſeaſe, ſlips her calf, ſhe then takes her fodder and recovers. Some may only give ſigns of ſuch abortion, and bear their calf ſeveral days, nay even weeks, before they ſlip it, and yet recover. Calves receive the infection from the cow, by ſucking her milk; and may alſo, if firſt ſeized, infect the cow.

"This diſeaſe takes place at all times and ſeaſons; but in ſummer and autumn it will rage moſt. The fate of the beaſt is generally determined on the ſeventh day from the invaſion; though it has ſometimes been delayed till the ninth.

"If eruptions appear all over the ſkin, or boils, as big as pigeons' eggs, in different parts of the body, but eſpecially from the head to the tail, along each ſide of the back-bone, and ſo ripe as to diſcharge putrid and ſtinking matter; if large abſceſſes are formed in the horns, or in any part of the body; if the dung is become more conſiſtent and hard; if the urine is thick, and not quite ſo high coloured as before; if the beaſt has had a ſhivering, ſucceeded by a general glow of heat, upon which the fever has abated, and the pulſe beats regularly; if the noſe be ſore or ſcabbed; if the eyes look bright and briſk, and if the beaſt pricks up its ears upon a perſon going into the hovel, and will eat a little hay or peaſe; theſe ſymptoms will determine that the creature is out of danger.

"But, if on the ſeventh day, the eruptions, or boils, are decreaſed in bulk, or have totally diſappeared, without having broke or diſcharged outwardly;

wardly; if the ſcouring continue almoſt conſtantly; if the breath be very hot, while the body, limbs, and horns are cold; if the groaning and difficulty of breathing are increaſed; if the running from the noſe and eyes is leſſened; if the eyes are dim, and ſunk into the head, with a perfect ſtupidity; if the urine is dark coloured, the pulſe intermitting, and a cadaverous ſmell is obſerved, we may aſſuredly pronounce the creature to be near its end.

" Ramazini's emphyſema was met with. All the carcaſſes that were opened appeared extenuated by the ſcouring. Upon opening the ſkin, much ſtinking air ruſhed out, and ſometimes a purulent and ſanious diſcharge. The veſſels of the brain were turgid, and filled with blood of a very red colour and looſe texture; the ventricles filled with water. The membranes of the noſe, the glands, the whole extent of the frontal ſinus, and the pith of the horns were highly inflamed, ulcerated, and full of ſmall abſceſſes. There was the ſame appearance in the mouth, and about the glands of the throat. The lungs were inflamed with livid ſphacelated ſpots, here and there loaded with hydatides, and the cellular texture was frequently diſtended with air. The heart was large, flabby, and dark coloured, containing in its ventricles clots of black blood, of a very looſe texture, without ſerum; the fat about it was a bright yellow. The liver was large; its blood and biliary veſſels were fully extended with dark fluid blood, and very deep coloured bile: the ſubſtance of the liver was ſo rotten, as to ſeparate on the leaſt touch. The gall-bladder was ſtretched to a great ſize, and full of greeniſh bile. The œſophagus was ulcerated in ſome. The paunch was diſtended with air, flabby, and contained a large ſubſtance, like a dried turf, conſiſting of fodder hardened to that degree. There were ſeveral appearances of gangrene on all the ſtomachs. The honey-comb had no fluid in it, but ſome pappy fodder. The manifold contained, between its plaits, a great deal of dried fodder which clung to their ſides. The runnet-bag was empty, but highly inflamed and gangrened in ſeveral places. All the inteſtines were empty, and beſet with red and black ſpots. The kidneys and bladder were large, without urine. The kidneys were of a looſe texture, eaſily torn.

" The fleſh of ſome was livid, in others of a lively red; but it ſoon turned green. The fat that remained was of a bright yellow. In ſuch cows as were with calf, the uterus was gangrened in ſeveral parts, and the water included in it ſtunk moſt intolerably. The virulence of the diſeaſe appeared to have ſometimes fixed itſelf on the vital part, and ſometimes on another, and frequently in more places than one.

"TO CURE.

" THE beaſts ſhould be kept in well aired houſes, and be plentifully bled, from two quarts to one, according to their age and ſtrength. They ſhould be waſhed with warm water and vinegar, to clear the ſkin from filth, and be frequently rubbed, which affords them much pleaſure as well as benefit. A rowel ſhould be made, as ſoon as poſſible, in the dewlap, and it ſhould be kept open for ſome time after the cure. If the dung be hard, a cooling purge ſhould be given, and plenty of anti-ſeptic drinks, ſuch as bran-water, vinegar, bitters, ſalts; but no hay till they chew the cud. The mouth, barbs, and noſtrils, ſhould be waſhed carefully and frequently. If a purging comes on by the fourth day, it ſhould be checked, by warm medicines proper to throw the morbid matter off by the ſkin, ſuch as ſnake-weed, and other warm plants, or venice treacle, with which Mr. Montgomery * cured ſix beaſts out of ſeven. If the colour of the mouth becomes dark, the creature cold, the dung black and fœtid, and the diſcharge from the mouth and noſe ſanious, an ounce of jeſuits-bark or oak-bark, with ſnake-root or other warm ingredients, ſhould be given every four hours, to prevent mortification.

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* One of the Doctor's neighbours in the country.

tification. If matter be formed in the horns, or any part of the body, an opening ſhould be made there, as alſo in the emphyſema, and digeſted by warm applications. If a purging naturally after the criſis, the bowels ſhould be emptied with a ſmart purge, after which a draught of warm ale may be given at night. On recovery, the beaſts ſhould be gradually expoſed to cold air, and by degrees habituated to their uſual food."

REMARKS ON THE DISTEMPER AMONGST CATTLE, OCCASIONED BY A PAPER ENTITLED, THE SUCCESS OF DR. BARKER'S METHOD, &C. IN THE LAST SUPPLEMENT, PAGE 686. GENTLEMAN'S MAGAZINE, 1747.

NOT long after this diſtemper had begun to rage in the neighbourhood of London, a pamphlet was publiſhed on this ſubject, ſaid to be wrote by a phyſician, and ſince owned, by Dr. Barker, endeavouring to prove, amongſt other things, the falſity of the opinion that the diſeaſe was infectious.

IN this he appeared almoſt ſingular; moſt, if not all thoſe who ſearched into the nature of this diſtemper, both phyſicians and others, were convinced, and many to their irretrievable loſs, that it was infectious. (See vol. 15. page 631, B.)

The legiſlature, from the ſtricteſt enquiry, and moſt careful examination of evidence, conſidered it in this light; and prudently inveſted proper perſons with authority to act for the good of the community.

The continuance, progreſs, ceſſation and revival of the diſeaſe in different places; the ſucceſs of the meaſures to put a ſtop to it when purſued with vigour; and the ill conſequences of neglecting them; all unite to prove that the diſtemper is really infectious, and is communicated like all other infectious diſeaſes. And conſequently, that to prevent that communication, by all the methods which have been ſucceſsfully employed, for the like purpoſe in other infectious diſeaſes, is the higheſt prudence. To propagate an opinion, therefore, that the diſeaſe is not infectious, is not merely propagating a miſtaken ſpeculative notion, but tends to ſet aſide that care, and diſſipate thoſe fears, as unneceſſary, which would lead us to the only effectual methods for ſecuring ourſelves from loſs.

It is not ſurpriſing that ingenious perſons, in forming a judgment of things, ſomewhat remote from their profeſſion, where evidence is doubtful, ſometimes commit miſtakes. The greateſt ſagacity, exerted in the moſt benevolent and upright intention, cannot always protect us from error. But where thoſe are the governing principles, the prepoſſeſſion muſt be uncommonly ſtrong, if they do not in obvious miſtakes, and where the evidence is indiſputable, quickly become converts to truth, and join heartily in repairing the injuries which a miſguided judgment may have occaſioned.

A conduct like this, might naturally have been expected, from a gentleman of ſo much candour and ingenuity; it was, therefore, the more aſtoniſhing to obſerve, that neither the almoſt infinite opportunities of being convinced by the ſufferers themſelves, nor the united ſuffrages of his brethren, nor the reſolutions of the legiſlature founded on the moſt authentic proof, nor laſtly, the regulations directed by authority, in conſequence of repeated applications, from different parts of the country, have hitherto induced him to think the diſtemper infectious. If the letter to which I refer ſpeaks his ſentiments, it was probably never intended to be laid before the public, it would be ungenerous, therefore, to be ſevere in animadverting upon it. One or two paſſages however may be taken notice of, as they ſeem to imply reflections upon the underſtandings of thoſe who diſſent from him, the phyſicians in particular, as ungenteel as unmerited.

“ I find (ſays the doctor, page 607) not only the
“ dealers in cattle in general, but even people, who,
“ by their education and ſtation in life, one would
“ have

"have expected to have been better judges of the "nature of diſtempers, are ſo thoroughly pre"poſſeſſed, with a notion of its being infectious, "that it is only preaching to the winds to ſay any "thing againſt it." Again—"I wiſh phyſicians "would think more cloſely on this ſubject, and "not debaſe themſelves, and their art, by falling "in with the prejudices of farmers, and cow"keepers."

SEVERAL phyſicians have thought cloſely, obſerved carefully, and without prepoſſeſſion, every thing that occurred to them on that ſubject, and as, in their opinion, it neither debaſes themſelves, nor their art to think right, even with farmers and cow-keepers, ſo they preſume to recommend it to that gentleman's conſideration once more, whether it is not of the moſt pernicious conſequence, to perſuade people that the diſtemper is not, if in reality it ſhould prove to be infectious, and that it is ſo has appeared, and ſtill appears, from fatal experience.

THE writer of this paper believes it in his power, were it neceſſary, to demonſtrate—that the diſeaſe which has ſwept off multitudes of cattle in Denmark, Brabant, Holland, &c. and continues to rage in ſome of thoſe countries, was infectious.—That this diſeaſe was imported into England, and as it is credibly reported, by means of calves, which ſome Engliſh traders were tempted with by the low price to purchaſe in Holland or the low countries: that theſe calves, having the infection about them, were brought over to Eſſex, and the diſeaſe ſpread from the lower parts of this county, and advanced to the markets and fairs near London: that from hence it has been propagated, by the ſame means, to all thoſe parts in the neighbouring counties, where it has ſince appeared: that by bringing cattle from infected places, it has again broke out in places where it had once been extinguiſhed: and that very few if any inſtances can be produced of the diſtemper's appearing in any part of the country, where the infection cannot be traced from ſome other part, where the ſickneſs was then or had raged.

And further, it appears that this diſeaſe, like moſt infectious diſeaſes affecting mankind, and imported from diſtant countries, grows milder the longer it ſtays with us.

When the plague firſt broke out with violence in London, medicines and methods of every kind ſeemed ineffectual, every thing yielding to its fury, and the artiſts themſelves were often forced to fly for their own ſecurity. By degrees its violence abated, proper applications took effect, and what afforded no relief at firſt, afterwards cured the patient.

Thus, in the preſent caſe, when the diſeaſe firſt appeared amongſt cattle, in the neighbourhood of London, it ſeemed too violent to admit of relief; a few indeed recovered out of the multitudes, by the benefit of great ſtrength in the creature, great care, and conſtant attendance in the owner; though it was frequently aſcribed to ſome particular regimen or medicine.

The caſe is now altered; the ſymptoms are become more moderate, and numbers recover; ſome with none, ſome with very little aſſiſtance, excluſive of the farmer's neceſſary attendance and warm houſing.

At the firſt it was declared, by a great number of gentlemen and farmers, that bleeding in very large, or in moderate, or in ſmall quantities, and repeatedly, were equally unſerviceable.

The progreſs of the diſeaſe was ſo quick, that a mortification had often ſeized the inward parts, before it was taken notice of, bleeding in theſe circumſtances only haſtened death.

But this remedy now ſeems to be of conſiderable ſervice, and ought to be uſed liberally, whenever the beaſt is attacked, and the earlier the better. To which obſervation the writer of this paper preſumes to add the following

INSTRUCTIONS TO THE FARMERS, &c.

FIRST, Avoid the infection with the utmoſt diligence, chearfully complying with the regulations enjoined by authority for the public good.

SECONDLY, Truſt to none of the celebrated medicines that may be propoſed to you; moſt that have been offered are known to be ineffectual, and many of them are extremely injurious.

IF your cattle are attacked, and you can try any methods without infringing the public orders—Bleed plentifully, repeatedly; keep their bodies open with lenitive electuary and epſom ſalts; an ounce of the firſt, a quarter of the laſt, may be given in gruel, once in eight or twelve hours, as occaſion may require.

GIVE them no dry meat from the firſt attack, till the huſkineſs, and hardneſs, and heat of the ſkin abate. Let their maſhes be thin, given warm, and very often, a little at once; keep them dry and warm.

Give no warm ſpicy drenches, the firſt four or five days: during this time a quart of warm water, three or four ſpoonful of vinegar and then ſweetened with honey, may be given every ſix or eight hours.

When the diſeaſe abates, an ounce of aniſe and of cummin ſeed, and half as much elecampane root powdered, given in a pint of tar-water, will probably be the moſt effectual remedy, repeated once or twice in twenty-four hours, or as occaſion may require.

The diſeaſe has now lived through all the ſeaſons: the cattle have been kept upon all ſorts of ground, fed with all ſorts of meat, and in all poſſible conditions. Had any cauſe ariſing from the air, ſoil, food, or management produced it, it would either have become general, or been wholly extinct; but neither of theſe have happened, it muſt therefore ariſe from ſome other cauſe; and this cauſe is aſſerted to be infection, imported and ſpread by the ignorant and avaricious. It is the pleaſure of a benevolent mind to inform the firſt; the duty of an honeſt one to detect the laſt; if the writer has contributed to either, he profeſſes his deſign is fully anſwered.

From the Gentleman's Magazine, 1747.

SUCCESS OF DR. BARKER'S METHOD OF TREATING THE DISTEMPER AMONG COWS.

'SIR, *Northampton, Dec.* 31*ſt*, 1746.

'NO motive but a ſincere regard to the public good, engaged me to ſend you thoſe remarks founded on Dr. Barker's reaſoning, in his pamphlet relating to the diſtemper amongſt the cattle, which were inſerted in your Magazine laſt month.

'I have not the pleaſure of any perſonal acquaintance with that ingenious gentleman; nor have I any inclination to debate or decide upon what he has ſaid in his pamphlet, with regard to the diſeaſe as not infectious.—But having (ſince you publiſhed my obſervations) received a very obliging letter from him, in which he favours me with ſome account of the ſucceſs of his method, which I think may be conducive to the general good, I thought it incumbent upon me to communicate the following extract from it to the public.

"As to the ſucceſs which has attended this method, I can ſay very little to it, ſince few have made a proper trial of it; but wherever it has been purſued, as far as I can learn, it has been of uſe.

" I am perſonally acquainted with one gentle-
" man, who, laſt winter, ſaved all his cattle by it;
" and I have been credibly informed of another in
" Eſſex, who out of ſixty cows ſaved fifty-eight.—
" A much greater number of cattle have recovered
" in the neighbourhood of London this winter than
" the laſt, which I attribute to taking them up in
" time, bleeding largely, and keeping them warm,
" giving them plenty of water-gruel and the like;
" to the doing of which, I flatter myſelf, my pam-
" phlet has contributed in ſome degree.

" I have been lately aſſured by a conſiderable
" cow-keeper, very near this town (London) that
" he has ſaved many of his cows this autumn, by
" theſe means, whilſt at the ſame time not a ſingle
" beaſt eſcaped of thoſe which he ſuffered to lie out
" at graſs.—A plain proof of the utility of keeping
" them dry and warm.

" But the moſt conſiderable inſtance of the
" ſucceſs of this method, which I have heard of,
" is that of a perſon at Kentiſh town, who having
" but a ſmall number of cows, and conſequently
" being the better able to take care of them, was ſo
" fortunate as to ſave them all, by following the di-
" rections I gave, but neglecting to take the ſame
" precautions this autumn, has loſt her whole ſtock
" by the diſtemper. If this be not a convincing
" proof

" proof of the uſefulneſs of the method propoſed, I " think nothing can be ſo.

" But, notwithſtanding all the pains I have " taken, there has been ſo little regard paid to " what I have already communicated, that I am " diſcouraged from making any further enquiries. " I find that not only the dealers in cattle, in general, but even thoſe, who, by their education " and ſtation in life, one would have expected to " have been better judges of the nature of diſtempers, are ſo thoroughly prepoſſeſſed with a notion of its being infectious, that it was only " preaching to the winds to ſay any thing againſt it.

" The mentioning of infection, in the manner I " had done it, unluckily created a prejudice againſt " every thing which I had ſaid—but, if people " would have conſidered coolly and impartially, " that with reſpect to the method of cure, which " I laid down, it was a queſtion of no conſequence " whether the diſtemper was infectious or not? " Since the curative indications were deduced, not " from imaginary cauſes, but from the manifeſt, of " the diſeaſe, ſuch, for example, as the fulneſs of " blood, the huſky cough—difficulty of breathing— " running at the eyes, &c.

" I wiſh phyſicians would think more cloſely on

" the ſubject—and not debaſe themſelves, and their " art, by falling in with the prejudices of farmers " and cow-keepers.

" You yourſelf, Sir, have ſet them a good ex" ample, and I heartily wiſh the directions, which " you have ſo methodically and clearly drawn up, " for the management of the ſick cattle, may be " attended to, as they ought to be, and may prove " a means (as probably they would do, if ſtrictly ex" ecuted) of putting a ſtop to this public calamity."

' Thus far Dr. Barker in his letter, which I was ' the more willing to impart, as (ſince I publiſhed ' my ſentiments) I had a printed paper ſent me ' from Worceſter, dated Dec. 8th, in which I have ' the ſatisfaction to ſee, that the four phyſicians of ' that city have unanimouſly agreed on the ſame ' principles, to recommend the ſame method.

' I ſhall only add, that when the cattle are come ' to the laſt ſtage of the diſtemper, (namely, when ' the milk, eating, and chewing of the cud have ' left the beaſt for two or three days) then the ' rules given by order of privy council ought to ' take place.—For as the whole maſs of blood is ' by this time become remarkably putrid, the di' ſeaſe may probably be infectious, though it ſhould ' be allowed not to be ſo at the beginning.

'Smoaking the cow-houſes with boiling vinegar, or burning a quantity of brimſtone in them, 'after they are well cleaned from the litter on 'which the ſick cattle lay; here is a very important 'caution.—And it may prove beneficial to thoſe 'that are labouring under the diſtemper, to have 'the ſteam of boiling vinegar diffuſed over the cow-'houſes, during their whole confinement, more 'eſpecially when the ſymptoms of the diſeaſe begin 'to increaſe. I am, Sir,

'Yours, &c.

'J. S.'

Method for preventing the DISTEMPER in COWS, by an eminent Physician, from the Gentleman's Magazine, for December, 1746.

"WHEN a cow is firſt diſcovered to have the dry, huſky cough, (though ſhe does not appear to have any worſe ſymptoms of the diſorder) let her be taken up from graſs, made very clean with warm water, and carefully rubbed dry, afterwards let her be kept in a warm place, and well ſupplied with freſh ſtraw.

"For the two firſt days, let her eat nothing but a gallon of bran made into a warm maſh, with water only, and each gallon divided into three parts, to be given at three different times. After the two firſt days are over, let her have hay conſtantly to eat, and the ſame warm maſhes as before. When the diſorder begins to abate, ſome boiled oats will be nouriſhing and proper.—Let all the water ſhe drinks be warm, and the more ſhe drinks of it the better, and for that reaſon it ſhould be offered frequently.—Let a quarter of a pound (or more to a ſtrong cow) of glauber's ſalts be given the day ſhe is taken up, and repeated for two mornings afterwards.—The ſalt is to be diſſolved, by boiling it in a pint of water for a few minutes, and when it is almoſt cold, the cow muſt be drenched with it.—Two ſetons, or rowels, ſhould be directly made through the dewlap in the following manner:—A piece of ſtick ſhould be cut like a butcher's ſkewer, but one end flattened, and capable of a hole big enough to thruſt a man's forefinger through. This is to be threaded with ſo many pieces of handle-bond, or good pack-thread, (each piece a yard long, and waxed with bees-wax) as will make them, when both ends are drawn even after threading, full as big as a man's forefinger.—Let the whole be rubbed over with butter or lard, and then, with a ſharp penknife, let the hole be cut (between an aſſiſtant's fingers, who is to hold it ſtraight) quite through the dewlap, as near to the fleſh under it, as can be without wounding that fleſh. The penknife is to go in on one ſide and out at the other, and at both ſides let the hole be made large enough, to admit eaſily the piece of ſtick with the thread through it: when the thread is juſt drawn half way through, let it be cut off cloſe to the eye of the ſtick, and both ends of the thread tied firmly together, ſo as to make it a kind of a ring. The part will ſwell a little for three or four days, during which time, ſome lard ſhould be twice a-day applied all round about it; but when it begins to run corruption it need have nothing applied to it, but every day the thread muſt be pulled for a minute, backwards and forwards, through the hole, to make it run more. Another rowel muſt be made likewiſe, and in the ſame manner, at the diſtance of about four inches from the firſt. Theſe ſhould be kept in for a fortnight at leaſt, after the beaſt gets well.—An iron inſtrument, made in the ſame ſhape as the ſtick is deſcribed, would be rather more convenient.

“ AT the beginning, two ounces and a half of ſalt-petre, ſix ſcore drops of oil of vitriol ſhould be given in three doſes, at three or four hours diſtance in a day, and the ſame quantity ought to be repeated every day till the beaſt get pretty well.—The two ounces and a half of ſalt-petre is to be boiled in three pints of water, till diſſolved, then put into an earthen pot, and the oil of vitriol added to it there and ſtirred up.

"Perhaps the cow will take the doſe, mixed with warm water, which ſhe is to drink, but if ſhe will not, ſhe muſt be drenched.

"The other remedy, of the greateſt conſequence of all, is large and timely bleedings, (for the diſeaſe has been proved, beyond diſpute, to be an ardent fever and an inflammation on the lungs) therefore, the firſt day the beaſt is taken up, let five pints of blood be taken away, the next day four pints, the next three, and the next two. Now, I ſuppoſe all this quantity of blood (taken away in the beginning, when there is only a dry huſky cough) will generally prove nearly or quite ſufficient.

"If, notwithſtanding this, the cough, the fever, and the difficulty of breathing increaſe, the eyes and the noſe run, and the diſtemper appears not to be conquered, let a quart of blood be taken away every day, till the ſymptoms begin to go off.

"The owners of cattle ſhould watch them very narrowly, ſo that the caſe may be taken in hand, while they have only the dry huſky cough; but if they be ſo careleſs as to neglect it, and the other ſymptoms above named enſue, they muſt uſe the ſame means, though the bleedings then required will be rather larger for the firſt four days.

“ If ſo large a quantity of blood, taken away at a time, ſhould make the beaſt very faint, the ſame quantity may be taken at twice in the ſame day, and this may be done without cutting a freſh orifice in the vein, for if the pin be taken out, and the pin be tied hard and rubbed, three times bleeding may be repeated from the ſame orifice.

“ If any owners of cattle ſhould be ſo extremely careleſs as to ſuffer the diſtemper to go on (without proper help) till the milk, eating and chewing the cud have left the beaſt for two or three days, and the looſeneſs is come on, and other ſymptoms are increaſed to a great degree, it is hardly then worth while to try any remedies at all.

“ J. S.”

P. S. “ I am juſt informed (but I cannot avouch it for a fact) that ſome little white ſpots in the mouth of the cow, though not under the tongue, conſtantly precede the huſky cough.—If this be true, there is a very fair warning, and the method propoſed ought to be tried, without any delay, as ſoon as theſe appear.”

METHOD OF TREATING SICK CATTLE, FROM THE GENTLEMAN'S MAGAZINE, FOR JAN. 1747.

" Mr. URBAN,

" I SHOULD not have appeared a third time in your magazine with any advice relating to cattle, if I had not been importuned to it by ſeveral gentlemen (and others) whom I greatly regard, as a ſervice I ought not to deny the public at a time when, through the careleſſneſs of the owners, and the troubleſome and improper ſchemes propoſed, the diſtemper ſpreads ſo faſt.

" AND, indeed, it is thought of great importance that the plaineſt directions ſhould be given, not only for the cure, but if poſſible for the prevention of this fatal diſeaſe; I therefore ſend you the ſubſequent ſcheme, which directs to ſo eaſy, and ſo cheap a method, that I hope it will be generally purſued, as in ſome inſtances it has been, with ſuch ſucceſs, that drooping cattle (whoſe milk began to decreaſe) have been recovered to their health and milk in a few days, and have been found better than ordinary after it: and I muſt take the liberty to ſay, that if the owners, to ſave themſelves ſo little trouble and ſo inconſiderable an expence, ſlight it, when the ſymptoms begin to appear in the herd, they muſt in a great meaſure charge the deſtruction of their cattle upon themſelves, and will be accountable, not only for their families, but to the public, for the detriment which may be ſuſtained by their folly and obſtinacy.

" WHEREVER the diſtemper is near any ſound cattle, if any of them begin to droop, ſo that there is the leaſt ſuſpicion that they are going to fall, let them be immediately taken up, made clean, and kept dry.—The firſt day let three quarts of blood be taken away—the next day three quarts more—and then let two quarts be repeated every third day for four times more—yet ſome allowance is to be made for the ſize of the cow and the ſtrength of her conſtitution, in determining the quantity of blood to be taken away, which may in a large and well-fed cow be more than three quarts, in a ſmall and lean one leſs.—

N. B. " I find, upon farther examination, that more blood may ſafely and conveniently be taken away than I ventured to adviſe in my firſt letter, printed in your Magazine, vol. XVI. page 649.

" DURING this time let the beaſt be drenched every day with three ounces of ſalt-petre, diſſolved in three quarts of water, to which muſt be added, at leaſt, ſix ſcore drops (or three drams indeed to a large cow) of oil of vitriol:—but obſerve this quantity is to be given at twice, two doſes being ordered together to ſave the trouble of mixing.—If it ſhould ſo happen that the oil of vitriol cannot immediately be procured, half a pint of vinegar (though I would rather prefer verjuice if perfectly good) may ſuffice in its ſtead.

"Let warm maſhes be given them twice or three times in a day, and let them drink frequently of water-gruel, moderately ſoured with verjuice or vinegar, which as they are extremely thirſty, they will probably be glad to drink.—But, if any ſhould happen to refuſe it, let them drink as much as they will of water-gruel, or warm water alone, which ſhould be offered them ſeveral times in a day.

"Though it is probable, that if the cattle be taken in time, a great alteration for the better may appear in two or three days, and particularly if their milk (if it ſhould have begun to decreaſe) may return plentifully, yet it will be adviſeable to go on in this method for about a fortnight:—and great ſtreſs muſt be laid on drinking largely on warm gruel, either with verjuice (if the beaſt will do it) or alone.

"If during this time two very large ſetons, or rowels, be made through the dewlap (in the manner I have ſo particularly deſcribed.)—See my laſt letter, vol. XVI. page 649. and if they be kept running, for two or three months, it will be an additional ſecurity: but theſe, being made late in the diſtemper, can be of no uſe, becauſe it grows deſperate before they can take effect, or begin to run.

"I would obſerve farther, that if the owners can contrive to keep thoſe cattle up till the latter end of March or beginning of April, it would be adviſeable; but if they cannot poſſibly do it, let great caution be uſed, when they are firſt turned out, which muſt be done by degrees, and on fine days.

"The reader will obſerve, that all theſe directions relate to the methods to be uſed at firſt, for when the diſtemper is come to a height, little is to be expected from any thing that can be done, and therefore the privy council have thought proper to direct that they ſhould be killed—and it will be then the intereſt of the owners exactly to follow theſe directions.—See my ſecond letter, printed in the Supplement to the Gentleman's Magazine, for 1746.

"I think it my duty to caution againſt truſting to receipts, recommended under the boaſting title of ſpecifics, and often compoſed of contradictory materials.—It is ſtrange ſo much ſhould be expected from them in any diſeaſe, conſidering how much depends upon different times and circumſtances, which muſt require different applications.—I muſt once more beg leave to remind the public, that if my directions be not punctually obeyed, or if any other ſuppoſed remedy be added to what I have adviſed, the trial is not fairly made, and I cannot be at all anſwerable for the conſequences.

"I am, Sir,

Northampton,
Jan. 15*th*, 1747.

"Yours, &c.

"J. S."

P. S. "As it is not probable I ſhall write any thing more on this ſubject, I recommend (to any who deſire farther ſatisfaction as to the principles as to which my advice proceeds) Dr. Barker's ingenious pamphlet (entitled an account of the preſent epidemical diſtemper amongſt the cattle, price ſixpence) which is the only rational piece I have ſeen on the occaſion, and the only one, I believe, publiſhed by a fellow of the college of phyſicians in London.

"IT has been ſo highly approved of, by the four phyſicians of Worceſter, that they have unanimouſly agreed to diſtribute, for the good of the county, an abridgement of it, with juſt encomiums upon the author."

A RECEIPT, FOUND BY EXPERIENCE, VERY BENEFICIAL TO BE GIVEN TO CATTLE TO PREVENT INFECTION.

" TO every ox, bull, or cow, give a decoction of angelic ſtalks and leaves, a large handful of rue chopped ſmall, boiled in ſix quarts, till reduced to two and a half, then ſtrain the water from it, and put an equal quantity of vinegar to it, and one ounce of aniſeed powdered fine. Give a pint of this liquor every morning faſting, a pint at noon, and another at night, for three days ſucceſſively; bleed your beaſt the ſecond morning, taking two quarts, if the animal be ſtrong."

Univerſal Magazine, Sept. 1747.

EXTRACT OF A LETTER, FROM A GENTLEMAN IN HERTFORDSHIRE, CONCERNING THE CURE OF INFECTED CATTLE, FROM THE UNIVERSAL MAGAZINE, OCTOBER, 1747.

" THE preſcriptions for infected cattle, have been of ſuch materials as are often impoſſible to be procured immediately in ſufficient quantities, and many of them are juſtly ſuppoſed to be too harſh and bitter for the entrails of horned cattle.

" To

" To the following method of management there can be no exception, and wherever it hath been duly and carefully uſed it hath been ſucceſsful. The firſt ſymptoms of infection being an exceſſive ſhivering, a very ſenſible gentleman ordered ſugar-ſops of bread, ſoaked in near a quart of ale, with the remainder of the ale to be given to each of the beaſts with a horn.

" This doſe was repeated thrice, at proper diſtances, the firſt day, which, by effectually warming them, took off the firſt ſymptoms.—The next day boiled oats and the liquor was given with a horn. And one doſe of the beer and ſops was only given at night, and this repeated every night till there was a perfect recovery, the next day dried oats were given, to ſuch cattle as would freely eat them, this, with hay and warm water, was continued till they were well.

" This happened to ſome in five days, and the malady did not continue on any longer than nine. An old cow, where there were no hopes, recovered ſooner than any, by a large diſcharge at the noſe. After all was ſafe, it was thought proper to give ſcalded bran by way of purge, as being both uſeful and innocent.

" Common ſenſe tells us that in theſe caſes the beer ſhould neither be ſtale nor bitter. Boiled barley ſeems to be more proper than oats, but oats when dry are far more proper than barley. Would not ſome of the warm feeds when in readineſs be uſeful, unleſs exception may be made to their being windy?"

N. B. "An early diſcovery of the diſtemper, and the immediate giving what is here directed, are of the utmoſt importance.

"Take	Sallad Oil,	1 quart
	Aniſeed or Angelica Water,	1 quart
	London Treacle,	1 pint
	Fenugreek,	8 ounces
	Bole Armeniac,	6 ounces
	Turmeric,	4 ounces
	Madder,	4 ounces
	Saffron,	½ ounce
	Aloes,	6 ounces.

All the feeds to be powdered very fine, and mixed in five gallons of ſtrong ale, then add the oil and water, and give every beaſt a pint at once three times each day."

THE method by which the inhabitants of Savoy, and many parts of France, ſtopped the great mortality amongſt their cattle, in the month of July, 1744:

and which they had uſed with the ſame ſucceſs about thirty years before.

Great care muſt be taken to viſit and examine the beaſts twice or thrice a-day, and alſo to cleanſe the ſtables, cow-houſes, and all places where they are kept twice a-day, and fumigate it either by burning a little frankincenſe, or juniper-berries; the racks, mangers, or poſts of the places they were in, muſt alſo be rubbed every day, and waſhed with water, in which ſweet herbs, as ſage, thyme, &c. have been ſteeped.

Those beaſts that are taken with a gathering about the roots of the tongue, and which in twenty-four hours will divide the tongue, muſt have the fore part ſcraped with a ſilver ſpoon, or ſome other thing of the ſame metal, and then waſhed with the following mixture,

> Take the herb called maſterwort, ſteep it with vinegar, with ſalt and pepper, and uſe it as aforeſaid.

For thoſe beaſts that are ſeized with oppreſſion upon the breaſt, difficulty of breathing, and diſorder of the lungs,

> Take half an ounce of ſuccotrine aloes, a quarter of an ounce of flower of ſulphur,

bruiſe them well together, and let the beaſt ſwallow the mixture with a horn, in the following proportions: to an ox give an ounce, a cow ſeven drams, a calf, a year old, ſix drams, and to other calves, in proportion to their age, &c.

N. B. The above method was uſed by the inhabitants of Savoy, and in fifteen days the mortality ceaſed.

Supplement to the Gentleman's Magazine, 1746.

PETERBUROUGH, Feb. 2d, 1745-6.

AS the common methods now in uſe have been found of little effect for preſerving the cattle; I beg leave to lay before the public the ſubſtance of what has been ſaid by Lanciſi and Ramazini, two of the moſt celebrated Italian phyſicians, who wrote upon the ſubject in the year 1711, when the diſtemper had ſwept away the greateſt part of the cattle in their reſpective countries.

It ſeems of little moment to perplex ourſelves with enquiries into the nature and cauſes of this diſtemper; we may however conclude, that it was owing to no taint in the air, becauſe the ſeaſon (they tell us) was not ſickly for any other creature: nor occaſioned by badneſs of food, becauſe there had been no blights or mildews among the herbs and corn, to afford any ſuſpicion of their being unwholeſome: it appears then to have been a peſt peculiar to the ox-kind only, and by tracing it to its firſt beginning, they find it brought into the country from Hungary, and ſpreading far and wide by contagion. With reſpect to cure, the two gentlemen are greatly divided in the affair of bleeding; and indeed nothing has occaſioned more controverſy amongſt ſome of our beſt writers, than the expediency of that in peſtilential fevers: on comparing, however, the different accounts, it ſeems a ſafe and neceſſary means, if done immediately; and probably the miſcarriages which the adverſaries to this practice have attributed to it, may be, in a great meaſure, owing to its being too long deferred: perhaps in cattle, ſome regard ſhould be had to their condition, whether fleſhy or otherwiſe; as likewiſe to the mildneſs or inclemency of the ſeaſon.

Burning alſo with a hot-iron, on each ſide the neck, and rowelling the dewlap, will anſwer all the purpoſes of bliſtering; for nature requires an outlet, whereby the peccant matter ought to be diſcharged; ſeeing that no beaſts have been found to eſcape, without having puſtules breaking out on the ſkin, affording thick and fætid matter.

THE tongue and palate ſhould be often waſhed likewiſe with vinegar and ſalt; and the frequent uſe of a curry-comb would occaſion a more free and plentiful perſpiration, and lead the morbid matter to the glands of the ſkin, where a criſis has been ſhewed to be always ſalutary.

FOR internal medicines, vinegar made cordial with mint, rue, ſage, and ſuch like herbs, (increaſing the warmth of them according to the ſtage of the diſtemper) will be moſt eaſy and effectual.

As to the preventative part, nothing will contribute more than cleanlineſs with frequent fumigations of pitch and tar: it might be proper alſo to bleed ſuch as are of full habit, and to keep a rowel conſtantly diſcharging under the throat, that the impurities of the contagion may go off inſenſibly, which uſually gather about the head.

Signed,

BUCOLICUS.

From the Gentleman's Magazine, 1746.

NEWCASTLE, *April* 20*th*, 1749.

OF all the remedies ever yet thought of for the diſtemper amongſt the horned cattle, the moſt extraordinary ſeems one that we hear has for a week paſt greatly employed the country people, not only in the way of cure, but of prevention alſo; which is, to ſmoke the cattle almoſt to ſuffocation, by kindling ſtraw, litter, and other combuſtible matter about them. What effect the method may have towards the end propoſed, is not eaſy to foreſee; but the moſt extraordinary part of it, is that by which it is reported to have been diſcovered, and which ſeems to give it an indiſputable recommendation and authority.—An angel (ſo ſays the legend) deſcended lately into Yorkſhire, and there ſet a large tree on fire: the ſtrange appearance of which, or elſe the ſavour of the ſmoke, incited the cattle around (ſome of which were infected with the diſtemper) to draw near, where they all either received an immediate cure, or an abſolute prevention of the diſorder. It is not affirmed that the angel ſtaid to ſpeak to any body, but only that he left a written direction for the neighbouring people to catch this ſupernatural fire, and to communicate it from one to another, with all poſſible ſpeed, through the country; and in caſe that, by any unhappy means, it ſhould be extinguiſhed and utterly loſt, that then new fire, of equal virtue, may be obtained, not by any common method, but rubbing two pieces of wood together till they burn.

Upon what foundation this ſtory ſtands we ſhall not be at pains to enquire; but ſo much is certain, that it has gained ſufficient credit to have put the farmers actually into a hurry of communicating flame and ſmoke, from one houſe to another, over the whole country.

FINIS.

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